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ABSTRACT

This report describes and documents the state of affairs in preparing graduate students for college and university teaching responsibilities. Chapter 1 summarizes the results of a survey on teacher assistant training and publishing and provides a review of the centrality of the teaching assistantship in graduate education. The publication's two main chapters present abstracts of programs with successful and creative approaches to preparing graduate students to be teachers. Chapter 2 profiles 28 centralized programs based in a graduate school, center for teaching excellence, English-as-a-Second-Language program, or similar central university office. Chapter 3 profiles 44 discipline-based programs in the biological sciences, chemistry, English, composition, foreign languages, mathematics, psychology, and social sciences, and speech communication. Chapter 4 examines the future considerations in preparing the professorate, and chapter 5 provides two directories of more than 360 centralized and discipline-based programs, listing contact names, job titles, institutions, addresses, telephone and fax numbers, and E-mail addresses. Appendices include the survey instrument and contact forms. (GLR)

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# PREPARING GRADUATE STUDENTS

A Guide to Programs That Improve Undergraduate Education and Develop Tomorrow's Faculty

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THE TEACHING INITIATIVE

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# PREPARING GRADUATE STUDENTS TO TEACH

## A Guide to Programs That Improve Undergraduate Education and Develop Tomorrow's Faculty

From a comprehensive national survey of teaching assistant training programs and practices.

*Edited by*
Leo M. Lambert and Stacey Lane Tice
Syracuse University

*Supported by*
The Council of Graduate Schools
TIAA-CREF
The Pew Charitable Trusts

A Project of The AAHE Teaching Initiative
American Association for Higher Education

PREPARING GRADUATE STUDENTS TO TEACH
A Guide to Programs That Improve Undergraduate Education and Develop Tomorrow's Faculty
*edited by Leo M. Lambert and Stacey Lane Tice, Syracuse University*

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# Table of Contents


v **Foreword**
*by Russell Edgerton and Jules LaPidus*

vii **Preface**
*by Leo M. Lambert*

xiii **Acknowledgments**

Chapter I
1 **The Critical Role of the Teaching Assistantship**
*by Peter D. Syverson and Stacey Lane Tice*

Chapter II
13 **Centralized TA Programs and Practices**
*edited by Leo M. Lambert*

Chapter III
61 **Discipline-Based TA Programs and Practices**

61 Biological Sciences — *edited by Clyde F. Herreid*

70 Chemistry — *edited by Richard Quest*

77 English and Composition — *edited by David A. Jolliffe*

85 Foreign Languages — *edited by Susan Rava*

94 Mathematics — *edited by Bettye Anne Case and John Philip Huncke*

104 Psychology — *edited by Victor Benassi*

111 Social Sciences — *edited by Phillip Saunders*

119 Speech Communication — *edited by Ann Q. Staton*

Chapter IV
127 **Preparing the Professoriate: Next Steps and What We Need to Do to Take Them**
*by Pat Hutchings*

Chapter V
135 **Directories of Programs and Contact People**
*compiled by Stacey Lane Tice*

137 Centralized Directory

147 Discipline-Based Directory

165 **Appendices**

167 The National Survey of Teaching Assistant Training Programs and Practices

179 About AAHE and The AAHE Teaching Initiative

# Foreword

In the early 1980s, the number of international students entering our graduate schools jumped dramatically. As many of these students became teaching assistants (TAs), this circumstance was followed by another: a rising tide of complaints, from undergraduates and their parents, about being taught by TAs whose English was difficult to understand. Like athletes who can't read, TAs who can't speak English was a quality defect too obvious to be ignored. "TA training" found its way onto the agenda of the American university.

Today, a decade later, the criticism has broadened far beyond the English language proficiency of international students. Against a backdrop of cost increases double the rate of inflation, rising expectations for student achievement, and fierce competition for scarce resources, issues of faculty workload, productivity, commitment to teaching, and competence as teachers are on the university agenda as never before. The preparation and role of all TAs, once an issue at the margin of people's attention, is moving to center stage.

Happily, as the heat has been turning up, important work has been going forward, as well. Those responsible for TA training have moved far beyond the initial, limited agenda of assuring minimum standards for international students, and a biennial national conference has been established to share and foster progress in the broad area of TA training. The American Association for Higher Education and the Council of Graduate Schools have provided the national umbrella for this event; responsibility for organizing and hosting it has been taken on by campuses eager to advance the cause of TA preparation: the Ohio State University (1986), the University of Washington (1989), and the University of Texas at Austin (1991).

At the 1989 conference, there was much discussion of the need for a road map through the new terrain of TA training. How far have we come? Have conditions improved? Are there now effective models that others might follow? What are the barriers to further progress?

Characteristically, it was Leo Lambert, associate dean of the Graduate School at Syracuse University, who seized the day and made things happen. More than at any university we know, key administrators at Syracuse believe in the maxim that lasting innovation needs to be a cooperative effort . . . that only if a number of institutions pull together will the system change in ways that sustain local initiatives. As a leader of the initial TA-training movement, and chief architect of one of the most advanced programs of TA training in the country, it came naturally to Leo Lambert to "think nationally."

Shortly after the 1989 TA conference, Leo asked us whether we were interested in joining him in designing a survey of TA training and publishing the results? We certainly were — especially since Leo and his capable staff were willing to do the great bulk of the work.

We commend this study to the attention of all of you "out there" who care about the future professoriate and the quality of undergraduate education. And we thank Leo and his colleague Stacey Lane Tice at Syracuse for a wonderful initiative, creatively and selflessly undertaken, in the service of us all.

Russell Edgerton
President
American Association for Higher Education

Jules LaPidus
President
Council of Graduate Schools

# Preface

> Since virtually all doctoral students, whether or not they enter the academic sector, will be engaged in not only the creation but the dissemination of knowledge, the skills acquired in learning how to teach will be fundamental to their future work. Yet in far too many programs, effective teachers are produced by happenstance rather than by design. Graduate students often teach too much but are not sufficiently assisted in becoming effective teachers; we find this both ironic and unacceptable.[1]

There has been considerable discussion of late about the erosion of public trust and confidence in the American system of higher education. One of the explanations frequently cited both in the popular press and by higher education insiders is the use (and abuse) of graduate teaching assistants for undergraduate instruction at major research universities. Traditionally, college and university faculty have been introduced to college teaching as teaching assistants by having their department chair thrust a textbook (and, if they were lucky, a syllabus) at them the day before classes began, with instructions to "stop by if you have any questions." Research universities also are often criticized for too frequently using inexperienced teaching assistants to teach introductory courses, denying undergraduates sufficient early interaction with experienced, senior scholars. Even more shocking to parents, trustees, and state legislators has been the practice of employing TAs who lack even the most basic level of English language proficiency to teach first- and second-year university students. These are poor practices indeed for institutions that exist to promote teaching and learning.

## Rapidly Changing Practices

Happily, tremendous strides have been taken toward addressing these problems over the past five years. The National Survey of Teaching Assistant Training Programs and Practices (described in Chapter I) that is the basis for this publication reported that among responding institutions, a remarkable three fifths of TA programs based in a central university office (e.g., a center for teaching excellence) have begun *in just the past four years.* Not only are poor practices being corrected relatively quickly, but, more significantly, at a number of leading institutions preparation for teaching is becoming an integral aspect of graduate training, particularly at the Ph.D. level. This is a change of the first order and, I would argue, one of the most important phenomena in higher education in the last twenty years.

How has such change occurred so quickly? There are many reasons. At the most basic level, many states now mandate English language proficiency, and, in some instances, basic training in teaching for teaching assistants. But there are even more compelling explanations:

(1) Campus cultures at research universities across the United States have begun to change in response to varied stimuli, creating a more favorable context for the preparation of graduate students for teaching. The landmark report of Ernest Boyer *Scholarship Reconsidered: Priorities of the Professoriate* has refocused and revitalized discussions about the meaning of scholarship and the connectedness of the activities of discovery, integration, application, and teaching.[2] With support of Lilly Endowment, Inc., academic and professional societies such as the American Historical Society and the American Sociological Association are reexamining basic definitions of scholarly work and enhancing the status of teaching within the faculty rewards system.[3] Indeed, on my own campus our new chancellor, Kenneth Shaw, has proposed the reexamination of the faculty reward system, the institution of prestigious awards for excellence in teaching, increased integration of research and discovery with teaching, along with a host of other initiatives to create a new culture of a "student-centered research university."

(2) Three national conferences on the employment and training of teaching assistants have been hosted — by the Ohio State University (1986), the University of Washington (1989), and the University of Texas at Austin (1991). A fourth conference is planned for 1993, to be hosted by the University of Illinois at Urbana-Champaign. These conferences have brought together faculty from a variety of disciplines, instructional-development professionals, English to Speakers of Other Languages (ESOL) specialists, and graduate school deans and have fostered important dialogues about how present practices might be improved.

(3) National associations such as the American Association for Higher Education (AAHE) consistently have kept graduate student preparation for teaching on their agendas and have connected the topic with broader movements in teaching improvement. The Council of Graduate Schools (CGS) has emphasized the obligation of graduate schools "to create an environment where graduate student teaching is valued and rewarded and where future faculty members may leave the institution well prepared for teaching."[4]

(4) The Fund for the Improvement of Postsecondary Education (FIPSE), of the U.S. Department of Education, has funded more than a dozen important projects in the area over the past three years, fostering the development of exciting new approaches to preparing graduate students for college and university teaching careers. Other forward-thinking funders, such as The Pew Charitable Trusts, also have taken leadership roles in this regard.

The sum of these and other efforts is to send a clear signal that our traditional practices regarding teaching assistants must be replaced by new institutional commitments for reform. Much progress already has been made, but bold leadership will be required to advance the agenda through the 1990s.

Not incidentally, one indication of how far the "TA training" movement has come is that the term "training" itself is rapidly falling into disfavor with faculty and professionals in the field. To many, the term connotes one-shot orientation programs that provide TAs with a limited repertoire of skills. Today, leading programs have much higher goals: preparing the next generation of faculty for excellence in both research and teaching; forging an ethic of professional development that begins in the graduate student years and continues throughout professional

life; and contributing to changing campus cultures that place higher values (and rewards) on teaching excellence.

Naturally, increased attention to the preparation of graduate students for university teaching responsibilities raises a healthy degree of skepticism as well as tough questions: Will time-to-degree for the Ph.D. be lengthened further?[5] Will TAs do even more teaching than they do now (already too much, in some fields)? Does increased attention to teaching mean that the rigorous research emphasis of the doctorate will be threatened? These are questions my faculty colleagues and I have discussed as Syracuse, with support from FIPSE and The Pew Charitable Trusts, implements its "Future Professoriate Project." We are proceeding, believing that increased preparation for teaching can be incorporated into the most demanding and rigorous of research-oriented doctoral programs; that carefully selected faculty mentors are in the best position to prepare their apprentice colleagues to excel in multiple scholarly capacities; and that both undergraduate and graduate education at our institution will be enhanced by more serious attention to the preparation of graduate students as teachers.

## The Purpose of This Volume

Our purpose with PREPARING GRADUATE STUDENTS TO TEACH is to describe and document the state of affairs in preparing graduate students for college and university teaching responsibilities. With so much happening on the national scene and with so many new programmatic efforts put in place just in the last few years, we and our colleagues at AAHE and CGS determined it was time to examine our present condition — to take stock — and to highlight programs taking promising new directions. To accomplish that goal, we conducted a NATIONAL SURVEY OF TEACHING ASSISTANT TRAINING PROGRAMS AND PRACTICES, with the sponsorship of AAHE, CGS, and TIAA-CREF, in cooperation with graduate deans across the United States. This volume is based on the results of that survey.

In Chapter I, Peter Syverson, of the Council of Graduate Schools, and Stacey Lane Tice, of Syracuse University, summarize the results of the survey and provide a helpful review of the centrality of the teaching assistantship in graduate education.

The publication's main two chapters are devoted to abstracts of programs with successful and creative approaches to preparing graduate students as teachers. When the survey results were in, we were overwhelmed by the number of good ideas and practices; we regret that all the good work under way in institutions and academic departments could not be featured. Chapter II profiles twenty-eight centralized programs based in a graduate school, center for teaching excellence, English as a Second Language program, or similar central university office. Chapter III profiles forty-four discipline-based programs in the biological sciences, chemistry, English and composition, foreign languages, mathematics, psychology, the social sciences, and speech communication. The disciplinary editors for Chapter III were selected on the basis of their national reputation in TA development in their field and, in some cases, their involvement in AAHE's Teaching Initiative.

As a part of the survey, respondents were invited to write a "ten-minute essay" about impediments to better TA-preparation practices and how they might be removed as we consider

new ways to prepare the professoriate of the future for teaching. The invitation elicited dozens of thoughtful, even passionate, responses from the field, which were woven into a wonderful essay by Pat Hutchings in Chapter IV.

Our intention in designing PREPARING GRADUATE STUDENTS TO TEACH was to foster idea sharing and interactions among faculty, professional staff, and graduate students who are involved (or who are about to become involved) in such work. Thus, in Chapter V, directories organized by program type and discipline contain essential contact information — the name, title, department, address, telephone and fax numbers, and electronic mail address for each program participant in the survey. More than 360 entries are included. Many of us in TA preparation have learned a great deal by trial and error over the years; it makes little sense for newcomers to start from scratch. Instead, we hope this publication initiates correspondence, telephone conversations, and site visits that will help all programs, both new and old, to become stronger and more sophisticated.

## A Broader Vision

I recently was part of an extraordinary weekend mini-conference held at Syracuse University's Lubin House, in New York City, on the subject of becoming a college faculty member.[6] Some of us who gathered for the meeting were faculty or administrators experienced in designing and administering development programs (for TAs, senior graduate students about to embark on academic careers, and/or new faculty); others were higher education scholars who have studied and written about becoming an effective university teacher. Still others represented a foundation, the U.S. Department of Education, or an academic society.

It rapidly became clear to us that the typically eight to ten years that encompass graduate (usually doctoral) preparation and the first years as an assistant professor should be regarded as a continuum of professional preparation for teaching and that for each of its stages (e.g., new TA, experienced graduate student, new faculty member) institutions should have a program in place appropriate to that level. For example, at each stage faculty or graduate students should be assigned to teaching duties appropriate to that level; be provided with a teaching mentor; participate in professional-development seminars with peers; receive incentives and rewards for excellence; and, perhaps most basic, have regular opportunities to talk with colleagues, both inside and outside their discipline, about teaching.

This idea of a continuum of stages in preparing to teach was significant in that it helped each of us understand our role — as TA "developer" or new faculty "developer" or program funder or academic society officer — within a much larger framework. Further, we began to realize the potential power of articulating a vision much more comprehensive than "TA training" and "new faculty orientation" of how institutions should be preparing graduate students and faculty to teach at the college level.

The programs highlighted in PREPARING GRADUATE STUDENTS TO TEACH significantly contribute to our understanding of how professional preparation for teaching can begin during the graduate school years. The major challenge for those of us involved in TA-development work on our campuses is to understand our programs in light of the professional-development continuum, to begin

to plan and implement expanded programs that will build on the foundations we already have constructed, and to forge connections and professional alliances that will ensure a coherent and comprehensive system of preparing college and university faculty in the United States.

LEO M. LAMBERT
Syracuse University

Notes

1. Association of Graduate Schools, American Association of Universities, *Institutional Policies to Improve Doctoral Education: A Policy Statement* (Washington, D.C.: American Association of Universities, November 1990).
2. E.L. Boyer, *Scholarship Reconsidered: Priorities of the Professoriate* (Princeton, N.J.: The Carnegie Foundation for the Advancement of Teaching, 1990).
3. This project is being directed by Robert M. Diamond, Assistant Vice Chancellor, Center for Instructional Development, Syracuse University, Syracuse, NY 13244; 315/443-4571.
4. Council of Graduate Schools, *Organization and Administration of Graduate Education: A Policy Statement* (Washington, D.C.: Council of Graduate Schools, Summer 1990).
5. See W. Bowen and N. Rudenstine's *In Pursuit of the Ph.D.* (Princeton, N.J.: Princeton University Press, 1992) for an excellent discussion of this topic.
6. Attendees also included Ann Austin, Michigan State University; Bob Boice, SUNY Stony Brook; Nancy Chism, The Ohio State University; Sarah Dinham, University of Arizona; Marty Finkelstein, New Jersey Institute for Collegiate Teaching and Learning; Valerie French, The American University; Jerry Gaff, Association of American Colleges; Rusty Garth, Council of Independent Colleges; Marne Helgesen, University of Illinois; Carla Howery, American Sociological Association; Brian Lekander, FIPSE; Bob Menges, Northwestern University; Jody Nyquist, University of Washington; Kathleen Parson, Macalester College; Marilla Svinicki, University of Texas; and Ellen Wert, The Pew Charitable Trusts.

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The support of The Pew Charitable Trusts — in particular Dr. Ellen Wert, program associate in education — is also acknowledged with gratitude. A grant from The Trusts has helped subsidize publication expenses and enabled AAHE to disseminate this book to key constituents in the higher education community.

We also are grateful to the American Association for Higher Education (AAHE) and the Council of Graduate Schools (CGS) for co-sponsoring our study. Under the stewardship of presidents Russell Edgerton and Jules LaPidus, AAHE and CGS have kept the issue of the preparation of graduate students for college teaching on the front burner for the past five years. Their leadership in this regard has been pivotal to the progress that has been achieved across the nation.

Pat Hutchings, director of The Teaching Initiative at AAHE, and Peter Syverson, director of information services at CGS, have been full partners in the study. Pat's ability to see the connections between the many issues related to teaching improvement and faculty development in higher education is extraordinary. Peter has a complete grasp of the issues affecting graduate education in the United States, and his advice on methodological concerns was invaluable.

We appreciate and value Bry Pollack's talents as the chief wordsmith and publications manager at AAHE. Bry is a prolific producer of high-quality work for AAHE, and we have come to rely heavily on her editorial judgment. Our thanks are also extended to Gail Hubbard, assistant editor, for her great work.

Without the talents and insights of our colleagues from across the nation, this project could have never come to completion; in fact, this volume is in many ways a celebration of *their* achievements. We are especially appreciative of the assistance of Nancy Chism, at the Ohio State University; Donald Wulff, at the University of Washington; and Janet Constantinides, at the University of Wyoming, in the early stages of our survey work. The contributions of our colleagues in editing the chapter on discipline-based teaching-assistant programs and practices was essential. In this capacity we acknowledge Clyde Herreid, at the State University of New York at Buffalo; Richard Quest, at the State University of New York at Binghamton; David Jolliffe, at the University of Illinois at Chicago; Susan Rava, at Washington University; Bettye Anne Case, at the Florida State University; John Philip Huneke at the Ohio State University; Victor Benassi,

at the University of New Hampshire; Phillip Saunders, at Indiana University; and Ann Staton, at the University of Washington.

Closer to home, we are grateful to Robert G. Jensen, dean of the Graduate School at Syracuse University, for his unflagging support of all of our endeavors, and especially for his leadership in making graduate student preparation for teaching a signature theme of graduate education at Syracuse. We have come to appreciate how rare it is to have a boss who is both a great colleague and friend and who sets a tone for experimentation, innovation, and making a difference in the lives of students.

We also owe a great debt to Hanna Waggoner, of the Center for Instructional Development, for her assistance in the editing of this volume. Seldom does one find editorial talent, a great sense of humor, and an amazing capacity for keen insight all in one person, but Hanna has all these qualities and more.

Despite the involvement of literally dozens of people in bringing this volume to completion, we remain responsible for its content and imperfections.

Finally, we're grateful to our families, our greatest sources of joy and inspiration. Much appreciation is due Laurie, Callie, and Mollie Lambert, and Craig and Megan Tice, for patiently sharing us with this project.

LML and SLT
August 1992

CHAPTER I

# The Critical Role of the Teaching Assistantship

by Peter D. Syverson
*Director of Information Services, Council of Graduate Schools*
and Stacey Lane Tice
*Assistant to the Director of the TA Program, Syracuse University*

Graduate students depend on a variety of sources of financial support to pay for tuition and living expenses, including fellowships; tuition scholarships; research assistantships; teaching assistantships; college work-study; student loans; and support from employment, spouse, and family. Over the six to ten years it typically takes them to earn a doctoral degree, students commonly use seven or eight of these different sources. Moreover, the sources used often vary by year of study. For example, a graduate student might begin with a fellowship or research assistantship, then have a teaching assistantship, and finish with a dissertation fellowship, all the while supplementing them with loans or income from employment.

The role of the teaching assistantship in this complex financial support matrix is central to understanding the importance of the TAship to graduate education. Drawing on a number of national data sources, we describe in this chapter the teaching assistantship's place in that matrix and conclude that across all disciplines, the teaching assistantship is the single most important source of graduate financial support that universities provide. In addition, we explore how the role of the TAship in this web of financial support sources has changed over the last two decades as the federal government's direct support of graduate students has waned.

## Changing Environments

The National Research Council's Survey of Earned Doctorates (SED) provides perhaps the most useful national data on the financial support of doctoral students. The SED questionnaire is filled out by graduate students at about the time they complete all requirements for the doctoral degree. In the survey, students are asked to indicate all of the financial sources they used to support their doctoral study. While the survey does not provide data on the *amount* of support received from each source, it does give us a sense of the *variety* of sources and the frequency at which they are used.

Displayed in Table 1 is a ranking of support sources. Not surprisingly, the most common support source was personal/spouse earnings, cited by 84 percent of all doctorate recipients. Most

**Table 1. Principal Sources of Support in Graduate School Among 1990 Doctorate Recipients[1]**

| Source | Number of Recipients |
|---|---|
| Personal/Spouse Earnings | 27,808 (84%) |
| Teaching Assistantship | 16,305 (49%) |
| Research Assistantship | 16,035 (48%) |
| Loans | 11,106 (33%) |
| University[2] | 8,703 (26%) |
| Family Support | 8,062 (24%) |
| Federal[3] | 3,792 (11%) |
| Other[4] | 4,456 (13%) |

1 Percentages are based only on known sources of support.
2 Includes university fellowships, college work-study, and other university sources.
3 Includes U.S. nationally competitive fellowships/traineeships, GI Bill funds, and other federal support.
4 Includes state government, foreign government, national nonfederal fellowships, and other unspecified sources.

*Source: National Research Council, Survey of Earned Doctorates*

**Table 2. Frequency of Teaching Assistantships Among 1990 Doctorate Recipients, by Field[1]**

| Field | Total Doctorates | Number With TAships |
|---|---|---|
| Humanities | 3,514 | 2,509 (71%) |
| Physical Sciences | 5,418 | 3,852 (71%) |
| Social Sciences | 5,536 | 3,103 (56%) |
| Professional Fields[2] | 2,107 | 1,058 (50%) |
| Engineering | 4,454 | 1,970 (44%) |
| Life Sciences | 6,186 | 2,371 (38%) |
| Education | 6,039 | 1,442 (24%) |
| Total | 33,254 | 16,305 (49%) |

1 Only doctorates with known sources of support are included.
2 Includes business and management, communications, public administration, social work, and theology.

*Source: National Research Council, Survey of Earned Doctorates*

graduate students work during the course of their doctoral study, and many pursue graduate degrees part-time while working full-time. Teaching assistantships, however, constitute the second most used source, at 49 percent. In other words, roughly one half of all doctorate recipients in 1990 reported having a teaching assistantship at some time during their graduate career. Nearly as many students received support from research assistantships, at 48 percent. One important difference between TAships and RAships, however, is that nearly all TAships are funded through the university budget, while roughly one half of all RAships are funded through federal research grants (National Research Council 1991, Table A-5, p. 70).

Data from the National Postsecondary Student Aid Study, conducted every three years by the National Center for Education Statistics, further demonstrates the contribution of the TAship to graduate student finances. In the study, financial support data are collected from a nationally representative sample of graduate students. In 1990, the study found that the total

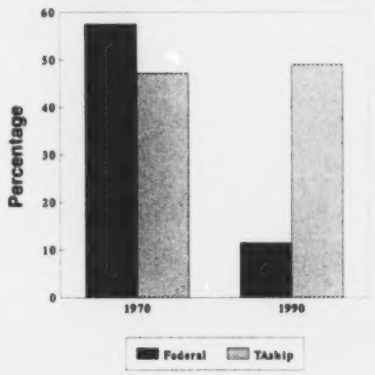
financial support package for graduate students averaged roughly $12,000. For students holding TAships, $6,600 of that package (55 percent) came from the teaching assistantship (U.S. Department of Education).

Not only is the teaching assistantship the chief source of support provided by universities, it is available to students across the graduate curriculum, as can be seen in Table 2.

The TAship takes on even greater importance in fields where other sources of support, such as research assistantships, are not frequently available. For example, humanities graduate students reported the following major sources of university-related support: teaching assistantship (71 percent), university fellowship (32 percent), and research assistantship (16 percent). In contrast, students in the physical sciences reported the same percentage for teaching assistantships (71 percent), but 76 percent reported holding research assistantships and 16 percent reported university fellowships (National Research Council 1991, Table A-5, p. 70).

Over the last two decades, the importance of university-based support, such as the teaching assistantship, has increased as federal support for graduate students has dramatically changed. Not only has federal support declined precipitously during this time, but it also has shifted emphasis, moving away from fellowships and toward research assistantships. In 1970, some 60,000 graduate students were supported on federal fellowships and traineeships from programs such as the National Defense Education Act (NDEA) Title IV, the National Science Foundation, the National Institutes of Health, and NASA. The NDEA Title IV program supported graduate students in all fields, including the humanities. All of these programs were either eliminated or scaled back between 1970 and 1975 (Association of American Universities 1990, pp. 16-17).

**Figure 1. Proportion of Doctorate Recipients Receiving Federal and Teaching Assistantship Support, 1970 and 1990**




*Source: National Research Council*

Figure 1 shows the result of that change in federal funding. In 1970, nearly 60 percent of doctorate recipients reported receiving direct federal support in the form of fellowships or traineeships; in 1990, that figure had dropped to 11 percent. Over the same period, the percentage of students reporting teaching assistantship support increased slightly, from 47 to 49 percent of all new doctorates. This shift in federal support away from the fellowship has dramatically increased the importance of the teaching assistantship as a support source for graduate students, especially in fields such as the humanities where research assistantships are not common (National Research Council 1991, Table A-5, p. 70; 1970, Table 3, p. 8).

## National Survey of Teaching Assistant Training Programs and Practices

While such statistics demonstrate the importance of the teaching assistantship as a source of financial support for graduate students, the TAship has another, perhaps more critical role — that of fulfilling a variety of teaching and teaching-related functions in the university. To enhance both the teaching skills of the graduate students and the TA experience itself, many universities have instituted training programs for teaching assistants. Because TA-training programs are a rather recent phenomenon on the institutional landscape, very little has been known about them.[1] How many programs are there, and in what kinds of institutions? How many graduate TAs are involved in the programs? How do different types of programs (centralized, departmental) differ? What are the financial resources involved in TA training, and how are programs funded?

The National Survey of Teaching Assistant Training Programs and Practices, on which this volume is based, was designed to respond to the need for descriptive data on TA-training programs. The study consisted of three surveys. In spring 1991, the first survey was sent to deans of the 393 institutions that were current members of the Council of Graduate Schools[2] (see Appendix A for a sample Survey I and cover letter). That questionnaire requested baseline data on each institution's TA-training programs: the total number of TAs on the campus, the number of international TAs, and whether or not TA training is mandated. In addition, the questionnaire requested the names of the contact people involved in any centralized (all-university) training effort or in exemplary department-based TA-training programs.

Based on responses to the first survey, a second survey (Survey II) was sent to the individuals involved in those centralized training programs (see Appendix B) and a third survey (Survey III) to the individuals involved in those department-based programs (see Appendix C). These two follow-up surveys asked for more detailed program data, a 300- to 500-word descriptive abstract, and invited a "ten-minute essay" describing the future direction of TA training as well as barriers and constraints to improved practice. (The comments evoked by that essay invitation are the basis for Chapter IV, by Pat Hutchings. Selected abstracts appear in Chapters II and III.)

The program data requested included the number of students participating, whether participation is mandatory, the number of years the program had been in place, program budget, source of funding, TA stipend range, and whether the effectiveness of the program had been evaluated.

In their descriptive abstracts, the contact people were asked to describe the program's goals and desired benefits, the scope and range of activities offered, the number of TAs involved in the various aspects of the program, and any academic unit or university-wide policies regarding TA load and assignment. They also were invited to cover the role of faculty and experienced TAs in various TA-training activities; any special preparation for TA-training leaders; the relationship between the various providers of TA training; how TA-training efforts have evolved over time and how evaluations have informed change; the hopes and expectations for future evolution of their TA-training programs and practices; as well as the theoretical, philosophical, or organizational principles that have guided their program's development.

The results of these three surveys provide a glimpse into the fairly new and still developing world of TA training.

## Survey I: Overall University Involvement in TA Training

Responses to Survey I were received from 292 (74 percent) of the 393 institutions surveyed. A total of 207 institutions (71 percent of those responding) reported having TA-training programs in place; 85 institutions (29 percent) reported having no formal training programs. Of those 207 institutions, 185 provided statistics on the number of students involved, for a total of 98,556 teaching assistants participating in TA-training programs. Responding institutions varied widely in the number of TAs employed on their campus, from a low of 5 students to a high of 3,700, with a median of 314. In other words, the distribution of TAs across institutions does not follow a "normal" curve, with most programs falling somewhere in the middle; rather, a small number of institutions have very large programs, and a large number of institutions have medium to small programs. Taken together, these results give a sense of the scale and variety of TA training in the United States. That is, TA-training programs are under way in roughly 70 percent of CGS

**Table 3. Frequency of Teaching Assistantships at Institutions Responding to the National Survey, by Institution Type[1]**

| | | Responding Institutions | |
|---|---|---|---|
| Type | CGS Institutions | With TA Programs | Number of TAships |
| Research I | 74 (19%) | 52 (28%) | 57,802 (59%) |
| Doctorate-Granting | 221 (56%) | 105 (57%) | 38,682 (39%) |
| Master's-Granting | 98 (25%) | 28 (15%) | 2,072 (2%) |
| Total | 393 (100%) | 185 (100%) | 98,556 (100%) |

1. The three categories are based on the Carnegie Classification of Institutions of Higher Education and degrees granted. *Research I:* The most research-intensive universities in the United States and Canada; annually each institution confers at least 50 doctoral degrees and receives at least $33.5 million in federal research support. *Doctorate-Granting:* Institutions not classified as Research I in the Carnegie system that grant the doctorate as their highest degree; this category includes Carnegie Research II, Doctoral I, and Doctoral II institutions. *Master's-Granting:* Institutions that grant the master's degree as their highest graduate degree.

*Sources: CGS/GRE Survey of Graduate Enrollment (Syverson and Welch 1992) and the National Survey of TA Training Programs and Practices*

**Table 4. Frequency of International Teaching Assistantships at Institutions Responding to the National Survey, by Institution Type[1]**

| | | Responding Institutions | |
|---|---|---|---|
| Type | CGS Institutions | With TA Programs | Number of TAships |
| Research I | 74 (19%) | 49 (30%) | 14,322 (62%) |
| Doctorate-Granting | 221 (56%) | 96 (59%) | 8,690 (37%) |
| Master's-Granting | 98 (25%) | 17 (11%) | 223 (1%) |
| Total | 393 (100%) | 162 (100%) | 23,235 (100%) |

1. See note in Table 3.

*Sources: CGS/GRE Survey of Graduate Enrollment (Syverson and Welch 1992) and the National Survey of TA Training Programs and Practices*

member institutions, involving 100,000 graduate students, with a wide spectrum of program size.

Table 3 details the distribution of programs and students across three institution types: Research I, Doctorate-Granting, and Master's-Granting. Most TA-training programs (57 percent) were found to be at Doctorate-Granting institutions, but the distribution of students across institution type was quite different. That is, while Research I institutions made up only 28 percent of the total number of institutions involved in TA training, they claimed nearly 60 percent of the teaching assistants.

The concentration of teaching assistants at Research I institutions is even more evident in the case of international teaching assistants (ITAs). As shown in Table 4, 162 of the responding institutions are involved in the training of ITAs, for a total of 23,235 international graduate students. Research I institutions made up just 30 percent of the institutions reporting training programs for international TAs, but they enrolled 62 percent of the ITAs. Doctorate-Granting and Master's-Granting institutions enrolled a considerably smaller fraction of the ITAs. The distribution of teaching assistants and programs has important implications for the difference in scale of TA-training programs in various institutional categories. The tremendous range in numbers of students involved per program is reflected in the data on program scale obtained in Surveys II and III.

In the final section of Survey I, institutions were asked if their TA-training program is mandated. Of the 184 institutions responding to that item, 85 (46 percent) reported that TA training is mandated; 99 (54 percent) reported that it is not. For those institutions where TA training is mandated, the source of the requirement is as follows: state government, 11 percent; university system, 12 percent; and institution, 77 percent. Thus, very few institutions are required by an outside authority to provide TA training; instead, their motivation to establish TA-training programs most often comes from within the campus. Results from Surveys II and III on the financing of TA-training programs are entirely consistent with that finding: Funding for TA training also almost invariably comes from the institution itself. That is, these data reinforce the premise that universities believe TA training to be a valuable service and are willing to fund such efforts out of the campus budget.

## Survey II: Centralized (All-University) TA-Training Programs

The second survey focused on characteristics of TA-training programs conducted by a single, campus-wide office, such as the graduate school or an institutional teaching center. Copies of the survey were sent to the 279 contact people identified in Survey I as involved in centralized programs. Responses were received from 161 individuals, describing 134 centralized programs at 107 institutions. (Because it was not unusual for the surveyed institutions to have more than one centralized program — for example, one program for all TAs and another, specialized ITA program — multiple responses were received from several institutions.)

A statistical profile of the responses to Survey II is shown in Table 5.

**Table 5. Characteristics of Centralized (All-University) Teaching Assistant Training Programs Responding to the National Survey, by Program Type (N=134)**

| Program Type | Number |
|---|---|
| Orientation | 50 (37%) |
| Year-Round | 46 (34%) |
| International | 31 (23%) |
| Other | 7 (5%) |
| Total | 134 (99%)[1] |

| Requirements for TA Participation | |
|---|---|
| All/Portions of Training Mandatory | 68% |
| Recommended | 32% |

| Availability of Additional Training in Home Departments | |
|---|---|
| Most departments have formal program | 16% |
| Some departments have program/modest or no training in others | 73% |
| Most departments have modest/no training | 11% |

| Program Age | 1-4 Yrs | 5-10 Yrs | 11+ Yrs |
|---|---|---|---|
| Orientation | 59% | 27% | 14% |
| Year-Round | 60% | 18% | 22% |
| International | 33% | 56% | 11% |

| Program Budget (N=101) | Range | Median | Mean |
|---|---|---|---|
| Orientation | $ 0-$ 86,500 | $ 3,000 | $10,485 |
| Year-Round | $ 770-$443,004 | $29,500 | $72,349 |
| International | $ 3,000-$228,500 | $21,000 | $51,871 |

1. Percentage does not add to 100% due to rounding.

*Source: National Survey of TA Training Programs and Practices*

Considering the amount of activity under way on campuses throughout the country, it is interesting to note that most TA-training programs are fairly young. Overall, 83 percent of all the centralized programs are ten years old or less; three fifths of orientation and year-round programs have been established in the last one to four years. Training programs for international TAs appear to be the exception: Most centralized ITA-training programs are at least five years old, with 11 percent at least eleven years old. The young vintage of many of the programs — especially the orientation programs — parallels the recent focus of the higher education community on undergraduate teaching and learning.

Responses to a series of budget questions were received from 101 centralized programs. Consistent with earlier survey findings, program budgets ranged widely, with the inclusion or exclusion of salaries from the budget the most critical differentiating factor. Budgets ranged from $0 to $443,004, with an overall median budget total of $12,000. Salaries were by far the largest component reported, constituting 68 percent of total program budgets; operating expenses constituted 17 percent and equipment 5 percent of the budget. Virtually all centralized TA-training programs (85 percent) are funded solely by the institution; other funding sources include alumni

associations, state government, federal grants, and language institutes.

Two final questions concerned the level of TA stipends and whether the effectiveness of the program had been formally evaluated. According to survey respondents, average TA stipends ranged from $3,600 to $17,000, with a median figure of $8,350. These figures are consistent with the stipend levels published in the University of Nebraska's National Survey of Graduate-Assistant Stipends (1992). In response to the question about evaluation, 56 percent of the programs reported that some formal evaluation had been undertaken; the most frequently reported evaluation method was participant ratings.

## Survey III: Departmental (or Other Academic Unit) TA-Training Programs

The third survey was sent to the 629 contact people identified in Survey I as involved in exemplary department-based TA-training programs. Responses were received from 287 individuals, and program data was provided for 246 training programs. The 246 programs described in the survey responses were located at 124 universities. (As with Survey II, contacts often described more than one program.)

Exemplary departmental programs were identified across the graduate curriculum. As shown in Table 6, the 246 training programs represented nearly every discipline area, including the physical and life sciences, engineering, social sciences, and humanities. The greatest number of programs (68 programs) were in the humanities, followed by the physical sciences (52), life sciences (38), and social sciences (32). Because the survey was not a scientifically representative sample of *all* TA-training programs, its distribution of department-based TA-training programs might not precisely reflect the distribution of programs on any given campus. Nevertheless, the survey results demonstrate the diversity of disciplines involved in TA training.

The number of students participating in departmental programs ranged widely, from as few as 6 to more than 100. The median number of students participating in a given training program was 19 for doctoral students and 15 for master's candidates. Other responses to Survey III are profiled in Table 7. Here, department contacts reported that the responsibility for training TAs is divided almost evenly between department-based programs alone and training offered by departments and a centralized program.

Department-based TA-training programs appear to be somewhat more established than centralized programs. Half of departmental programs have been under way for eleven or more years, in contrast with centralized programs, where most have been in place for fewer than five years. Departmental program budgets showed the same wide range as the centralized programs: Three quarters of the departmental programs had annual budgets of less than $5,000; at the top of the budget range, 5 percent of departments reported budgets of $50,000 or more. Most departmental programs reported little or no external funding. Most departmental programs (73 percent) are funded solely through the department; 20 percent are supported by funds allocated by a central administrative office.

**Table 6. Frequency of Departmental Programs Among Institutions Responding to the National Survey, by Discipline**

| Discipline | Number |
|---|---|
| Chemistry | 22 (9%) |
| Communications/Speech | 15 (6%) |
| Computer/Information Science | 4 (2%) |
| Engineering | 11 (4%) |
| English | 20 (8%) |
| Foreign Language/Literature | 23 (9%) |
| Life Sciences | 38 (15%) |
| Mathematics/Statistics | 21 (9%) |
| Physics/Astronomy | 5 (2%) |
| Psychology | 17 (7%) |
| Social Sciences | 15 (6%) |
| Writing/Composition | 25 (10%) |
| Combined Academic Units | 7 (3%) |
| Other | 23 (9%) |
| Total | 246 (99%)[1] |

1. Percentage does not add to 100% due to rounding.

*Source: National Survey of TA Training Programs and Practices*

**Table 7. Characteristics of Departmental Teaching Assistant Training Programs Responding to the National Survey (N=246)**

| | | | |
|---|---|---|---|
| **Locus of TA Training** | | | |
| Within the Department Only | 50% | | |
| Both Department and University | 47% | | |
| Other | 3% | | |
| **Requirements for TA Participation (N=240)** | | | |
| Mandatory | 77% | | |
| Portions of Training Mandatory | 16% | | |
| Recommended | 7% | | |
| **Program Age** | **1-4 Yrs** | **5-10 Yrs** | **11+ Yrs** |
| | 24% | 25% | 51% |
| **Program Budget** | **Range** | **Median** | **Mean** |
| | $0-$304,000 | $0[1] | $9,926 |

1. More than half the departments reported a budget of $0.

*Source: National Survey of TA Training Programs and Practices*

On evaluation, fewer departmental programs than centralized programs reported formal evaluations of program effectiveness. Twenty-nine (29) percent of departmental programs had been evaluated; the most common technique was the student-based, end-of-program survey.

## Summary

The teaching assistantship serves a unique dual role in U.S. universities — as a source both of financial support for graduate students and of teaching resources for the campus.

For graduate students, the TAship is much more than a teaching experience. A review of national statistics on financial support shows that the teaching assistantship is a principal support source and the most important university-provided resource. The TAship has taken on an even greater importance as the federal government has shifted support from the mechanisms of fellowships and traineeships to research assistantships. In fields such as the humanities, where federal fellowship support was an important support source for an earlier generation of scholars, the teaching assistantship has become critical.

For universities, the teaching role — while always a part of the TAship — has become increasingly important as emphasis on quality undergraduate teaching intensifies. In parallel with renewed focus on teaching, universities have established training programs for teaching assistants. The findings of the National Survey of Teaching Assistant Training Programs and Practices substantiates this. TA-training programs were found throughout the university community — in all types of campuses and departments. In 1991, programs were in place in 71 percent of the responding universities, ranging widely in character, size, and budget — from orientation programs to year-round programs, from centralized to department-based. Their distribution reflects the structure of the American university system itself: a small set of very large programs, and a much larger number of small- to medium-sized programs. A striking finding is the recent origin of TA training: Most university-wide programs have been established within the last five years.

A common theme found in the results of the three surveys is the university as the initiator of TA training. For nearly 90 percent of the programs identified, the motivation to establish the programs had come from the campus rather than some outside authority. Budget allocations for teaching assistant training tell the same story: Nearly all centralized and departmental TA-training programs are funded out of the university budget. The survey responses lead us to conclude that institutions find TA training to be a valuable activity. The descriptions of the exemplary programs that follow in Chapters II and III of this volume reinforce this finding.

### Notes

1. Notable exceptions to the gap in knowledge are found in "Teaching Assistant Training: The View From the Top" and "Teaching Assistant Training: The View From the Trenches," by Pamela L. Gray and Nancy L. Buerkel-Rothfuss. These papers also provide an excellent overview of earlier research literature on TA training and support (see Nyquist et al. 1991, pp. 29-50).
2. The Council of Graduate Schools is a membership association of deans of graduate schools in the United States and Canada. In the spring of 1991, CGS membership totalled 393 institutions, including 7 in Canada. Its member institutions enroll 75 percent of the graduate students and account for 67 percent of all master's degrees and 97 percent of all doctoral degrees awarded annually in the United States.

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CHAPTER II

# Centralized TA Programs and Practices

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This chapter profiles twenty-eight programs that provide services to graduate teaching assistants on an all-university basis. They most often are based in graduate schools (e.g., Emory, Syracuse, University of Colorado at Boulder, University of Southern California) or in centers for "teaching excellence," "teaching and learning," or "instructional development" (e.g., Harvard, Ohio State, University of Texas at Austin, University of Washington). Occasionally, they are based in the Office of the Provost (e.g., University of Minnesota) or, if directed particularly to international teaching assistants (ITAs), in an English as a Second Language (ESL) office or English language institute (e.g., University of Delaware).

## Support From Faculty and Administration

Wherever their academic home, centralized TA-development programs require a broad base of campus support to be maximally effective. Most important, faculty must understand and support the goals of the program, for they bear primary responsibility for ensuring the quality of the overall graduate experience, hire and assign TAs, and, ultimately, serve as the primary mentors for graduate students in both teaching and research. Gaining that understanding and support is a complicated assignment for those who direct centralized TA programs, because each academic department has a unique culture, with traditions that must be respected; at most major research institutions, this means interacting with well over fifty departments on TA issues.

Support from top administrators is also essential. Chancellors and presidents, chief academic officers, and graduate school deans play key leadership roles: in promoting changes in the campus culture that recognize and reward excellence in teaching as well as research; in identifying resources to build and sustain TA-development programs; and in establishing university standards for quality TA preparation. Their commitment must be in place for any lasting and meaningful institutional change to occur.

Leaders of centralized program development efforts also must be effective at forming alliances with a host of other campus offices, including ESL centers or English language institutes; international student offices; and instructional-development centers, the graduate school, and the many other administrative and instructional-support offices. At Syracuse, for example, my staff tries to ensure that all offices that will interact with new TAs coordinate their efforts to

smooth the transition into university life for these important graduate students. Our success depends on the strength of the partnerships we have forged with other campus units.

How to build such a diverse coalition? When Syracuse's TA Program was founded, a steering committee comprised of senior faculty, top administrators, graduate students, and staff from key offices was formed to oversee the program's implementation. Such a strategy can be effective for several reasons: All important stakeholders have a formal voice in program planning; committee members serve as "key communicators" with their peers about program design and implementation issues; and, most important, the multiple perspectives brought to the planning process will inevitably strengthen the program's design and help ensure its efficacy.

## Graduate Student Leadership

Another hallmark of many programs featured in this chapter is the employment of graduate students in roles of key responsibility for TA-program leadership. Stanford and Harvard, for example, employ "graduate teaching consultants"; at Syracuse, we rely on "teaching fellows" to provide peer guidance and support. Many other programs give "head TAs" or "teaching associates" leadership roles in coordinating TA-training seminars or TA responsibilities for a large course or program.

The role of teaching fellow is pivotal to the success of Syracuse's twelve-day orientation program for new teaching assistants. The fellows lead small interdisciplinary groups of twelve to fourteen TAs in a variety of interactive, participatory exercises that TAs tell us are the most valuable activities of the orientation. The fellows' ability to empathize with the fears of novice teachers, to inspire confidence, and to instill high standards is extraordinary. Most important, we rely on teaching fellows to help us determine how the program can be strengthened, to identify specific topics TAs need to have addressed in seminars offered during the academic year, and occasionally to consult with TAs on a one-on-one basis. One bit of advice to other institutions designing new TA programs: Take full advantage of the tremendous insights and ideas of senior TAs; their perceptions about how TAs might be better prepared will be "grounded" in experience that program planners should understand.

## Resources

Investment in quality TA preparation is, in my view, one of the wisest uses of increasingly scarce resources at major research universities. A few of the centralized programs described in this chapter invest several hundreds of thousands of dollars (including the cost of staff) in their TA-development efforts. Still, this is a relatively *small* investment of funds on a *per TA* basis. I estimate that Syracuse spends approximately $250 — or, 1.25 percent of the annual cost of supporting a single TA (including stipend, tuition scholarship, and the university's contribution to health insurance) — preparing each TA to teach.[1] I am convinced that it is money very well spent. But I am never surprised to hear from colleagues at other institutions who have been instructed by their provosts to develop a TA program without any commitment of resources!

Given both the complexity of the teaching tasks we expect TAs to undertake and the

significant institutional investment required to support their positions, a commitment to quality TA training and development is the only responsible course of action. *Inevitably, this means devoting staff time and operating budgets to the mission.* The alternative course of action is to deal with the very high costs of not preparing TAs: diminished undergraduate learning; loss of public confidence in our institutions; and a squandered opportunity to prepare the next generation of the professoriate for teaching.

## Use of Video Technology

Many of the programs profiled in this section, as well as many in the next chapter on discipline-based programs, use video technology extensively to help TAs improve their teaching. During orientations for new TAs, for example, many institutions use "microteaching," a practice teaching exercise in which the TAs present a small portion of an actual lesson, usually, but not necessarily, while being videotaped. The teaching is critiqued constructively for strengths and weaknesses, and the TAs then have the opportunity to "reteach" the lesson, incorporating suggestions from the critique. We have used a modified form of microteaching with interdisciplinary groups in our new-TA orientation at Syracuse for the past six years, and it is uniformly the most well received exercise in the program. While the exercise initially promotes a few jitters among novice teachers, we have found that microteaching actually can be a big confidence booster. Many new TAs have commented that seeing themselves teaching on videotape makes them less anxious about the prospect of meeting their students and bolsters their self-image as instructors. David Way, of Cornell University, has developed useful and well-known protocols for microteaching (see Cornell's abstract).

Despite its advantages, microteaching has obvious limitations: Critiques usually focus on easily observable behaviors (e.g., too much talking to the blackboard, speaking too quickly, etc.), and give short shrift to important issues of content sequence and interaction with students, or to the broader objectives the instructor had for the lesson. To counteract some of these shortcomings, many departments now have both faculty and TAs videotape themselves teaching and then meet one-on-one or in a small group seminar to review and critique one another. Here is one example of how faculty can lead by positive example: Consider the message graduate TAs receive when they see successful senior faculty members engaged in such a reflective and self-critical process. Incidentally, placing a video camera in the classroom is seldom intrusive; quite the contrary, undergraduate students usually are impressed when their teacher explains the reason for the camera's presence, and then it quickly fades into the background.

## International TA Programs

The national outcry about institutional practices that allow ITAs who lack English language proficiency to teach undergraduate students has been the subject of recent stories in *The New York Times* and the *Wall Street Journal* and on the *Today* show. The presence of such ITAs in classrooms, laboratories, or studios is indefensible to students, parents, trustees, and legislators. But, of course, the problem is much more complex than simply testing ITAs for language proficiency and "weeding

out" those whose English language skills are inadequate.

First, we must bear in mind that ITAs often are products of educational systems fundamentally different from our own. The contrast between the American classroom environment and the teaching and learning experiences they are accustomed to in their home country is often startling. The relative informality of many U.S. classrooms, interactive teaching methods, and students' sometimes aggressive questioning of teachers, for example, can be alien phenomena. Communication difficulties, then, are as likely to arise from cultural differences in the classroom as they are from problems with language. So, even ITAs who have passed rigorous language tests can fall victim to "I don't understand my TA" complaints from undergraduates. Many of the ITA programs profiled in this chapter have developed excellent methods of dealing with these important cultural differences.

Another frustration is the American public's misunderstanding of why U.S. universities employ so many ITAs in physics, mathematics, chemistry, and engineering in the first place. The oft-repeated question, "Why don't you just hire more American TAs?" reflects a fundamental ignorance of our present circumstance — that a very substantial proportion of Ph.D. students in the disciplines identified above are awarded to foreign nationals. But that ignorance is largely our own fault. Universities have done a poor job, in general, of communicating the broader parameters of the ITA situation: that the U.S. system of graduate education is the envy of the world; that we are not producing sufficient numbers of mathematics, engineering, and science Ph.D. students (especially women and members of underrepresented groups) of our own; and, most important, that there are tremendous advantages to undergraduates of having teachers from other cultures in our classrooms. Some institutions (Clemson, for example) have produced brochures for students and parents that address these and other important ITA issues.

I also believe that much of the "ITA problem" on our campuses has its roots in undergraduate intolerance and inexperience in dealing with people from other cultures, and that ITAs make easy scapegoats for a poor grade. We can counterbalance this unfairness only by making it clear that general condemnations of any group of students, including ITAs, are unacceptable and by swiftly attending to specific abuses and taking corrective action as necessary. This sounds simple enough, but it requires the cooperation and commitment of faculty and department chairs, ESL and TA-development specialists, top administration, and undergraduate and graduate student leaders. The centralized ITA programs in this chapter are good models for dealing with these complex issues.

## Partnerships With the Disciplines

Many of the centralized programs featured in this chapter share responsibility for TA development with faculty in the disciplines. These partnerships are ideal, because they combine the advantages of all-university, interdisciplinary programming with the day-to-day support and guidance that can be provided only by experienced department faculty with subject-matter expertise.

The opportunity for interdisciplinary interactions is one of the great strengths of centralized programs. Too often, graduate study can be an insular experience, with little opportunity for

conversation with colleagues who bring a different disciplinary perspective to their teaching. At Syracuse, we often find that the small, interdisciplinary groups to which new TAs are assigned during orientation evolve into "support groups" that continue to meet informally throughout the first year of graduate school and beyond.

Centralized programs often also have the advantage of expert staffs, albeit small ones, capable of mounting quality all-university seminars and colloquia, staffing teaching resource centers, and providing special expertise for ITA programming. Ideally, even these centralized services have a high degree of faculty participation and support.

On most campuses, even those with the most comprehensive, sophisticated, and effective centralized programming, the reality is that the quality of the graduate teaching assistantship experience depends directly on how willing faculty in the disciplines are to commit themselves as mentors and guides. For it is these mentor relationships between professors and graduate students that ultimately matter in graduate education — in preparation for both teaching and research.

### From Orientation Programs to a More Sophisticated Response

Over the past five years, many institutions have organized TA-orientation programs as an initial response to the demand for better preparation for teaching. The importance of TA orientations is not to be underestimated: They help prepare TAs for that very important first class meeting; TAs learn to handle basic classroom problems, and how to plan to avoid them; faculty and experienced TAs help new TAs "learn the ropes"; and, most important, new TAs witness faculty and administrators taking seriously the business of preparing for teaching. But orientation programs should be only a first step toward more sophisticated approaches to TA development.

As older centralized programs mature, greater numbers of universities are offering a comprehensive range of opportunities and services for TAs that extend well beyond orientation. For example, at Syracuse, program elements have been added over time as a result of external funding, increasing staff experience, and growing interest and support among faculty and TAs. Newer ventures, such as Emory University's TATTO program, have been designed from the very start to provide a comprehensive progression of preparation and experiences for teaching assistants, teaching associates, and assistant instructors. The program abstracts that follow offer dozens of good ideas worth noting as universities build comprehensive services to prepare TAs for teaching.

—LML

Note

1. That $250 per TA figure includes salaries for *all* program staff and on-campus housing and meals during our twelve-day orientation program serving more than 325 new TAs each year.

## American University

In fall 1990, The American University instituted the Dean's Scholars' Seminar Program to complement its Dean's Scholars Awards, three-year fellowships with additional stipends each year for twenty exceptional incoming doctoral students planning careers in college teaching. Each

incoming cohort of twenty students comprises one seminar; three such seminars run at one time.

The seminar is a three-year, comprehensive, carefully planned and sequenced developmental program. It strives to produce men and women who are well versed in both the content of their discipline and the teaching methods best suited to it and who are thoroughly acculturated to the ethic of excellence in teaching. The program develops in students a good understanding of how people learn; a solid repertoire of teaching skills and approaches; an enthusiastic commitment to activist, learner-centered teaching; the flexibility needed for successful teaching, even in rapidly changing environments; a strong personal conviction about the value of the teaching profession; and the capability of becoming a faculty leader in instructional development. It also gives the students substantial experience in the classroom. The program is supported by a three-year grant from FIPSE.

Members of each seminar meet five times each semester for two hours. The curriculum is divided into six parts (one for each semester):

(1) skills needed by TAs — how to effectively comment on and coach student writing, lead interactive discussion sections, work constructively with the course instructor;
(2) models of undergraduate curricula (with special attention to general education/liberal arts components) and undergraduate academic advising;
(3) learning styles and the variety of teaching approaches needed to meet diverse student needs;
(4) course syllabus and materials design, including how to incorporate regular student feedback to improve instruction and course design;
(5) team teaching or co-teaching of a course with a mentor; and
(6) solo teaching with a coach and the seminar on call.

American University students who hold fellowships (including the Dean's Scholars) are expected to provide up to twenty hours of service per week as teaching or research assistants. Participation in the seminar fulfills a portion of that service obligation. Specific assistantship assignments are made by each department.

To inspire and instill an ethos of excellence in teaching, the seminars are led by senior faculty well known and respected for both their scholarship and their career-long commitment to excellent teaching. With the help of the project director, each seminar is organized and conducted by a team of four senior faculty, one of whom serves as the seminar chair. Experienced TAs are not yet formally involved in the program as leaders, although they might be in the future.

The key resource person for the project, the assistant provost for academic development, is well versed in instructional-development and training techniques. The project director, in consultation with the resource people, identifies appropriate books and articles, from which the seminar faculty select items to use in the seminar. The seminars are and will remain a faculty-based project, relying heavily on the wisdom and experience of the senior faculty leading them.

At American, TA training traditionally has been conducted by apprenticeship within academic departments, with each of the schools and colleges independently mounting its own orientation program for new TAs. TA training likewise is evaluated at the department level. The Dean's Scholars' Seminar is American's first attempt at sustained, multidisciplinary TA training

with a formal evaluation process built into the program. If successful, its evaluation techniques could be replicated or adapted by departments.

The ideal TA-training model for the university would be faculty-based and concentrate on preparing graduate students for academic careers. Such a model would:

(1) continue to employ apprentice-faculty relationships at the department level;

(2) provide for appropriate, formative evaluation of TA performance with minimal intrusion into the faculty-TA relationship;

(3) assist departments and colleges that want to strengthen their work in TA training; and

(4) provide opportunities for ongoing multidisciplinary workshops or seminars organized and conducted by faculty for TAs from across the campus.

The Dean's Scholars' Seminar Program is based on the conviction that excellence in teaching is both art and science; that excellent teachers continually reflect on and revise their courses and instructional approaches; that what works in the classroom will probably change over time and vary according to changes in the student body; and that modeling and coaching by faculty members well known as excellent teachers is an effective way to inform and inspire future teachers.

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## Association of American Colleges

AAC's Project on Improving the Preparation of Graduate Students for the Professional Responsibilities of College Teaching was designed to acquaint graduate students in the humanities with the range of professional responsibilities of college faculty members and to improve their skills in teaching. To this end, graduate students were involved in a variety of activities arranged by their department at their own institution in collaboration with a nearby liberal arts college. The pairs of institutions cooperating in this effort were Duke University/Guilford College and Brown University/Connecticut College.

On the graduate school campuses, selected students and faculty members from the departments of English, history, religious studies, philosophy, and classics all met in a comprehensive seminar to discuss curriculum and course design, pedagogy, and faculty roles and responsibilities. Then they met in disciplinary groups in departmental seminars to examine issues of teaching and learning more specific to their field. Faculty members from the partner liberal arts college helped shape and lead the seminars.

Graduate students also visited the campus of the partner liberal arts college to observe — and in some cases to help teach — classes, as well as to see and experience other elements of faculty life there. Faculty members from the liberal arts colleges worked in one-on-one relationships to help the students gain a fuller understanding of the nature of faculty professional life in undergraduate institutions.

The project began with a planning year. The second year saw the initiation of these various activities on the campuses and a year-end conference that brought people together from all the participating institutions to exchange notes and evaluate their efforts. With the assistance of the project advisor, Jim Slevin, professor of English at Georgetown University, these first efforts were evaluated and plans for the next year refined. Slevin visited all the participating campuses to prepare a report on the project's overall effectiveness.

During the year-end conference, it became clear that to fully explore and disseminate the potential learning in the project, the models being tested would require a longer trial, preferably in a wider range of institutions. To that end, AAC has been attempting to raise additional support for the project to involve two or three more schools.

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## Carnegie Mellon University *(international TA program)*

The international TA (ITA) training program at Carnegie Mellon is run by the English as a Second Language (ESL) Center. The program began in 1986 to respond to the increasing numbers of ITAs and related problems, e.g., complaints from undergraduates. Its goals are to test such TAs for language and cultural proficiency and to give remedial help to those who are weak in either area.

University policy requires that all TAs whose native language is other than English pass a language test before being allowed to work as TAs (note that native language, not citizenship, is the determining factor). The test consists of a teaching simulation in front of a panel of four or five trained raters, one or two of whom are undergraduates familiar with the subject material and who can ask authentic questions. The panel rates each candidate on comprehensibility (pronunciation, fluency, and grammar); the ability to explain a concept in English; listening comprehension and fielding of questions; and familiarity with American pedagogical style.

Prospective TAs place into one of four categories:

(1) skilled enough in English to become a TA;
(2) skilled enough to become a TA with further ESL work (prescribed language work prior to or concurrent with a teaching assignment);
(3) not skilled enough to become a regular TA, although grading or tutoring concurrent with a TA assignment is allowed; or
(4) not skilled enough in English to do either teaching or grading (intensive ESL work recommended).

TAs who must do further ESL work have several options. For example, the ESL Center

offers a tutoring program; tutors are competitively chosen undergraduates who receive twenty hours of training and are closely supervised by the ESL Center. Because the tutors come from a wide variety of academic majors, they can be matched with graduate students in a particular field. A math TA, for example, can work with a tutor who has a strong math background. Tutoring sessions can take the form of simulated classes, with the graduate student presenting a "mini-lesson" and the tutor acting as the "student." In this way, the tutor can model clear explanations in a particular field.

A second option is the ITA Skills Workshop, which meets each semester for three hours weekly. The workshop focuses on both the language and the cultural skills needed to teach effectively in the American classroom. Graduate students work on their language skills as well as strategies to compensate for their language difficulties. They also learn the same basic teaching skills taught to native English-speaking faculty by the University Teaching Center (UTC).

The ESL Center and the UTC work together closely on TA training. The UTC has created a series of publications and seminars to improve teaching on the campus.

Originally the training and testing program for ITAs concentrated on language skills; however, it became apparent that for these TAs, speaking a different language was less a problem than seeing the classroom from a different cultural perspective. The ITA program now emphasizes cultural and pedagogical aspects that affect both teaching performance and students' perceptions of the TA. These include rewording statements, giving examples, teaching interactively, building student-teacher rapport, using body language, and understanding American attitudes toward education.

In September 1991, a Pennsylvania law went into effect that requires all nonnative English speakers (faculty and TAs) to pass a fluency test before teaching undergraduates. The university faces a $10,000 fine for each uncertified teacher. The law certainly has increased participation in Carnegie Mellon's testing program, and its staff members now are working with ITA trainers throughout the state to determine a reasonable standard for such testing.

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## City University of New York - Graduate School and University Center

CUNY's Center for Advanced Study in Education (CASE) has designed a three-year project, Preparing Doctoral Students for Urban College Teaching, supported by FIPSE. The project addresses issues of teaching and learning within the urban context. As part of CUNY — the largest urban university system in the nation, with a student population exceeding 200,000 and an instructional staff of 16,000 — CASE prepares doctoral students for their initial teaching position. The basic program consists of a semester-long seminar followed by a semester-long teaching practicum, both supervised

by master college teachers.

CASE conducted its first seminar — for doctoral students in the social sciences — in spring 1992. The fourteen-week curriculum introduced the students to American higher education, from colonial to current times; examined the effects of open admissions policies on college demographics, organization, and services; and defined three critical characteristics of urban learners, each of which was examined in detail in subsequent sessions: cultural diversity, basic skills levels, and language varieties. In addition, the seminar sessions incorporated practical techniques for dealing with these and other student characteristics, including age, sex, and family and work status. Seminar students also learned about college classroom testing, classroom management, and new pedagogical techniques. Two sessions were devoted to issues in teaching the social sciences, focusing on the use of media and the resource-rich urban environment; the final two sessions were spent discussing ethics, getting and keeping a teaching job, and promotion and tenure.

A variety of expert professors from the social sciences disciplines at CUNY's seventeen undergraduate colleges led the sessions, thus giving students access to diverse teaching styles and ideas, an opportunity to learn about the colleges that comprise the CUNY system, and a chance to make future contacts. Assignments included a formal, structured observation of a master teacher; the creation of a comprehensive syllabus for an introductory course in their discipline; and the development of a professional curriculum vitae. Students were provided with a reading list and copies of ten books and several articles.

For that first seminar, twenty doctoral students were selected from the more than eighty who applied. All students completed the seminar and will take part in the supervised field teaching practicum in fall 1992 — with the exception of four students who have moved, are teaching out of state, or will be doing field research out of the country. In fall 1992, twenty doctoral students from the humanities will be enrolled in the second seminar series, to take part in the practicum in spring 1993. In 1993-94, the last year of the project, doctoral students in mathematics and the natural sciences will enroll.

The practicum curriculum consists of adjunct teaching jobs for all students and supervision by mentors who are professors at the colleges; formal monthly meetings of the participants and mentors; and peer support groups of doctoral students, who observe one another in the classroom and provide feedback and guidance. Since CUNY does not have a teaching assistantship career ladder from TA to associate to professor, the seminar and practicum often are the doctoral students' only training for adjunct teaching. As adjuncts, they have total responsibility for their class — from creating a syllabus and selecting a text, to teaching the course, to testing and grading.

The project staff is evaluating the project extensively, using a variety of written and feedback methods and sources to monitor the process. The evaluation seeks to assess progress, highlight potential problems, and inform choices about curriculum content and format and seminar presenters. Other aspects of the evaluation focus on changes in students' knowledge and attitudes and values about teaching. The emphasis is on determining the extent to which the project has developed (or is developing) an effective urban-teacher preparation program. In addition, the staff hopes that by tracking the participants and a comparison group of doctoral students as

they progress through their doctoral studies it can determine the effects training projects of this type have on persistence and degree completion rates and on participants' subsequent teaching experiences.

A comprehensive curriculum for urban teaching will be available at the end of the project, as will a manual for administrators and/or a guide for new faculty teaching in urban colleges and universities.

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## Cornell University

Cornell is a decentralized university, with most TA-development programs residing within its colleges or departments. However, its Office of Instructional Support (OIS) provides consultation and support to these college-wide or department-based programs and also administers three university-wide programs: the International TA Training Program, the Graduate TA Development Workshop Series, and the Graduate TA Multicultural Project. OIS services include videotaping, confidential mid-semester feedback, individual consultation, and consultation for the development and facilitation of course and departmental programs.

The OIS staff currently includes a director, who administers the department and works principally with faculty; an assistant director, whose major responsibility is TA programs; a director and an additional instructor for the International TA Training Program (which was combined with OIS in 1991); and an administrative aide. A graduate assistant provides support to staff members. A half-time multicultural project coordinator was hired for a three-year grant in 1991. A full-time multicultural trainer joined the department for one year.

Many of the college-wide programs are organized by graduate students, who receive compensation from their college. The College of Engineering appoints one graduate student, who receives a full stipend and tuition and hires four TA fellows, who receive stipends of $2,500 each; the team is responsible for a TA program for 140 new engineering TAs yearly. In the School of Industrial and Labor Relations, one graduate student receives a full stipend and tuition to administer its required program for thirty-five to forty-five TAs. The College of Agricultural and Life Sciences employs eight graduate students as microteaching facilitators and discussion leaders in its two-day training program offered to thirty-five TAs at the beginning of each semester. OIS consults extensively with these graduate students as they develop and present their program; it also facilitates the sharing of information and ideas among the college programs.

The International TA Training Program offers semester-long instruction in crosscultural classroom dynamics, pronunciation, and a video practicum. Trainees receive three hours of weekly instruction: two and a half hours in an evening seminar and one half-hour video tutorial. All first-time ITAs are screened to identify those who must enroll in the program; other ITAs may

choose to enroll. Enrollment has increased every year since the program's inception in 1987; during 1991-92, sixty ITAs participated.

The university-wide Graduate TA Development Workshop Series was begun with a small grant from the President's Fund for Educational Initiatives. These small-group workshops are developed and facilitated by graduate students, with the support and resources of OIS. A full-day Saturday program is offered at the beginning of each semester. Workshops cover a variety of graduate student issues, such as leading a discussion, preparing to teach, lecturing effectively, the multicultural classroom, and microteaching. Students choose two workshops from the ten to twelve offered and receive a handbook that includes materials from all the workshops. The program is an excellent opportunity for graduate students from across the university to meet, share experiences and ideas, and address educational issues.

The three-year Graduate TA Multicultural Project has received funding through the President's Fund and was initiated in fall 1991. Its goals are to provide TAs with the knowledge and skills to deal effectively with multicultural issues in the classroom; to explore ways to integrate multicultural perspectives into the curriculum; and to help TAs improve their abilities to relate to colleagues, faculty, and undergraduates in Cornell's diverse community. A core group of ten graduate students works with the half-time multicultural project coordinator to develop and facilitate diversity programs for TAs in individual departments and colleges across the university.

A guiding philosophy of OIS is to provide TAs with the most powerful learning experience in the least amount of time. Training in the mechanics of teaching gets less emphasis, developing concepts and principles of teaching and learning gets more. TAs are encouraged to identify the principles that guide their teaching and to reflect on their practice, the goal being to develop and refine their own teaching style. Programs model active learning strategies, as TAs actively participate in their own learning about teaching. All programs rely on immediate and summative evaluations to inform planning.

Several trends in TA development at Cornell have been evident in the past few years. Most colleges are now making some form of training mandatory. Microteaching sessions, using a form of the videotape recall protocol developed by Cornell's David Way, are an important part of nearly every program. Programs are less likely to use a lecture format and more likely to rely on graduate student leadership in small-group, experiential settings. Ownership of TA programs remains within the colleges or departments, but OIS has facilitated more coordination and communication among colleges. A few voluntary and innovative university-wide projects have helped to coordinate and extend TA-development programs. The challenge for the future is to maintain funding of TA training during tight financial times and to provide consistently high quality programs so that these relatively new TA-development programs become an integrated and respected component of departmental culture.

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# Council of Independent Colleges

CIC's Preparation of Future Faculty Project creates a transitional teaching residency experience for advanced graduate students through cooperation between graduate schools and liberal arts colleges.

Many liberal arts colleges evaluate faculty based on their teaching effectiveness, and the faculty role there emphasizes teaching, encompasses a broad definition of scholarship, and includes expectations that faculty advise and recruit students and serve the college (and often the community) outside the classroom. Yet, most faculty receive their graduate training within the research university setting, where faculty have become comparatively specialized and are rewarded primarily on the basis of their research.

Particularly acute problems result for liberal arts colleges, where presidents and deans, especially at small liberal arts colleges, report difficulty in recruiting faculty members who have real experience in teaching undergraduates and who understand the fundamentally different expectations of faculty in a liberal arts college versus a research university.

The Council of Independent Colleges, a national association of private liberal arts colleges, is addressing the problem by increasing the contact graduate students have with liberal arts colleges and their faculty. In the model, a graduate school cooperates with two or three nearby liberal arts colleges to offer its graduate students a variety of activities to improve their ability to teach undergraduates.

The project has been in place for three years in two pilot locales: Chicago and Rochester. Participating institutions include Loyola University (graduate school), Illinois Benedictine College, and Rosary College, in Chicago; and the University of Rochester (graduate school), Nazareth College of Rochester, Roberts Wesleyan College, and St. John Fisher College, in Rochester. Within the next several years, the project will expand to three additional cities.

Project activities include liberal arts college faculty serving as teaching mentors to graduate students, who teach courses and participate in other professional experiences in the colleges. Graduate students serve as "faculty associates" in what might be seen as a one-year teaching residency. During the residency, they teach one course per term and attend college-wide or departmental faculty meetings, serve on curriculum planning committees, help develop new courses, and advise students. Relationships with mentors assume various forms, including team teaching, mutual classroom visitations, conversations about teaching, and joint course design. In addition, graduate students are invited to structured discussions that focus on improving teaching skills. Finally, the project is experimenting with an alternative financing mechanism for graduate student stipends, in which both the graduate school and the liberal arts colleges contribute.

As an immediate result, future college faculty in several graduate schools now have a better sense of undergraduate teaching, as well as direct exposure to the intense commitment to students, teacher-scholar role models, and sense of educational community found in the nation's 700 smaller colleges. Moreover, in both sites, the activities have had wide influence outside the project: Other faculty at the colleges have been affected positively, other graduate students have been exposed to these possibilities, and deans at both types of institutions have begun to envision

additional cooperation.

More broadly, however, the project also provides graduate schools with models of alternative approaches to preparing future college faculty and shows liberal arts colleges how they can assume greater responsibility in that effort. Indeed, the project focuses, perhaps more clearly than any other initiative involving graduate students, on the transition from trainee to employee, from graduate student to faculty member. It raises questions about how individuals become faculty members and offers experiences that can be important in that transition.

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## Emory University

The Graduate School of Arts and Sciences at Emory University inaugurated its Teaching Assistant Training and Teaching Opportunity Program (TATTO) in August 1991. As designed, the program provides training for graduate students prior to their first teaching experience at Emory, as well as specific teaching opportunities. The teaching opportunity phase of TATTO allows individual departments and programs to offer more courses and frees regular faculty to teach lower-level undergraduate courses, particularly senior faculty for introductory courses.

Students begin the TATTO program with a training workshop in the summer prior to the year they are expected to have their first teaching opportunity as TAs. Participating departments enroll their rising second-year students, if their students normally teach in the second year, or their rising third-year students, if their students normally teach in the third year.

The training workshop lasts for four days prior to the beginning of the Graduate School's orientation period. It supplements, not duplicates, any discipline-specific training programs. Students receive a stipend.

Individual departments provide appropriate training either concurrently with or subsequent to the training workshop. Departments must submit a description of their training program to the Graduate School for review.

Upon completion of the training workshop, students may participate in TATTO's teaching opportunity phase. In their first teaching opportunity, students assist a faculty member in the teaching of a course (as "teaching assistants"). Students may lead discussion or lab sections or be used in other appropriate fashions, but using them solely as graders is inappropriate for this phase of the program.

Participating departments must provide a written statement to the Graduate School specifying each student's teaching opportunity, how the faculty mentor(s) will assist each student in the teaching process as the term progresses, and how the student's progress will be monitored and evaluated.

In the second teaching opportunity, a regular faculty member co-teaches a course with the graduate student (a "teaching associate"). Here the student and faculty member collaborate

to develop and teach the course. Again, participating departments must provide the Graduate School with a list of the co-teaching opportunities and must specify how the students will be evaluated.

Students who demonstrate exceptional ability and dedication during the first two phases of the TATTO program (as teaching assistants and associates) are eligible for appointment as assistant instructors. To be eligible, students also must have completed all other Graduate School and program requirements except the dissertation and must have been admitted officially to Ph.D. candidacy. Students are appointed as assistant instructors in their fifth year of residency. The amount of each stipend and the number of stipends available depend on funding resources. Assistant instructors are responsible for developing and teaching one course each semester.

Assistant instructors receive a teaching fellowship in recognition of their abilities and commitment for that fifth year. Thus, assistant instructors receive an additional year of support from the Graduate School beyond that already committed to the department or program.

A significant fraction of the eligible students likely will qualify as assistant instructors. Students who do not qualify usually will remain eligible for support as teaching assistants or associates. Funds for these students may be provided by Emory College on a case-by-case basis, if funds are available and need dictates.

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## Harvard University

The Derek Bok Center for Teaching and Learning (formerly the Harvard Danforth Center for Teaching and Learning) was created in 1976, with the support of President Derek Bok and the Danforth Foundation, to improve the quality of undergraduate education at Harvard College. Use of the center usually is voluntary, with one third of the 1,117 teaching fellows (TFs), the equivalent of TAs in other institutions, in the Faculty of Arts and Sciences using the training and consultation services each year. Approximately 140 faculty receive or collaborate in services yearly.

The Bok Center is housed in the Harvard University Science Center, a large, centrally located complex. The center includes two classrooms equipped for videotaping, consultation rooms, the teaching and learning library, the center's tape collection, technical space for the production and editing of videotapes, and office space for the associates.

The center has a regular staff of twelve, including a director, six associates (two of whom teach at Harvard), an expert in English as a Second Language, technical and management staff, and a research coordinator. In addition, an auxiliary staff of about a dozen includes specially

trained graduate student teaching consultants.

Twice a year, preceding the fall and spring semesters, the center holds its teaching orientations, which are geared to beginning and advanced teaching fellows, with special programs for junior faculty and other faculty. The two-day fall orientation and one-day spring orientation focus on active learning and practical strategies for the classroom; they also typically include at least one panel discussion of more theoretical or general interest. Harvard faculty, Bok Center staff, and experienced teaching fellows lead the sessions, along with a small number of invited speakers from other institutions.

Workshops on more specialized topics, such as the culture of the American classroom and gender and teaching, are offered during the semester. For example, in 1992, the center held a workshop in collaboration with Radcliffe College, "Difficult Dialogues: Race and Gender in the Classrooms and Residences."

If a teaching fellow, faculty member, or department requests direct classroom observation, it is carried out by center associate directors or teaching consultants. A one-time observation and consultation focusing on a specific issue is typical, although more extended or repeat observations are also possible. About 90 percent of consultations include videotaping, either on site or in the center's own classrooms. The videotape is reviewed, usually in one-on-one consultations that combine detailed analysis of and strategizing around specific teaching issues, help to develop teaching confidence and a repertoire of solid skills, and the opportunity for contact with talented teachers.

The center also uses videotapes to coach and train groups of beginning teaching fellows. Eight to ten teaching fellows involved in a large course, for instance, might meet with center staff for microteaching sessions in which each TF can practice before his or her peers, view the video, and receive group consultation on the experience.

In addition to working with individual faculty and teaching fellows, the Bok Center staff serve as consultants to courses and departments. They may work with course heads, head teaching fellows, or groups of teaching fellows by attending meetings; administering and discussing mid-term course evaluations; and generally being available for troubleshooting, planning, or training. A course head might wish to collaborate with the center to train all the teaching fellows for a given course; microteaching would be a typical example of such work with courses.

Departments use the Bok Center in various ways. Its associates enjoy good collegial and collaborative relationships with a number of departments, and some associates specialize in particular areas. Goals might include assessing or raising the level of teaching in the department.

Each fall, the center runs a nine-week advanced seminar on discussion leadership, focusing on the nuts and bolts by analyzing teaching cases developed from actual classroom incidents. For the thirty or so participants, who represent all levels of the teaching community and come from a variety of disciplines, it is an opportunity to discuss their craft, share common challenges, and learn from one another.

The Bok Center offers several services to promote informed attention to student writing. The Graduate Writing Fellows Program enrolls teaching fellows who want to strengthen the writing

component of their sections. Fellows (who are paid a modest stipend) attend a two-day series of workshops and reconvene several times during the term to exchange ideas and improve their skills. At the request of a course head or head teaching fellow, center staff members lead or facilitate sessions; discussions are tailored to individual courses and draw on work students have submitted. Individual consultations also are available throughout the semester. The center also advises teaching fellows on the writing of recommendations. Among the handouts that the center distributes are a tip sheet on writing commentary, a student writing self-assessment sheet, and examples of effective brief writing exercises. It also has prepared guidelines on grading, intended for courses with multiple sections and examinations that require writing.

The Bok Center library contains several hundred books and thirty-five different periodicals on teaching and learning. Its tape collections contain videotapes on teaching, including edited tapes created by the center, and archival tapes from the center's orientations and workshops. The library may be used by teaching fellows, faculty, and others in the Harvard community.

The center collaborates with the Graduate School of Arts and Sciences in the production of an annual *Teaching Fellows Handbook* and is producing a *Handbook for New Faculty*. Its journal, *On Teaching and Learning,* is biennial and contains solicited articles and papers. The center also produces various teaching tip sheets, pamphlets, informational packets, and a handbook for foreign teaching fellows and faculty.

The center sponsors a computer bulletin board service, through which TFs and faculty can communicate teaching problems, send tips and information, and hold group "discussions." The center also has computer software available to help with grading in large courses.

The Bok Center provides special support for foreign teaching fellows. Its handbook, *Teaching American Students,* helps to articulate the culture of the American classroom and offers guidance and teaching strategies. Orientation sessions in the fall and spring are keyed to the needs of foreign teaching fellows; these cover culture, communication, and language, and fellows hear from colleagues who have successfully negotiated the special problems of the nonnative teacher. Foreign teaching fellows who have had little or no experience teaching in the United States might be paired with experienced teaching consultants, often with the same cultural background, who advise, observe classes, and help with class planning. The center's Teaching in English Program, held each fall and spring, focuses on pedagogy, culture, and language. Tutoring in English is also available, and the staff works with foreign teaching fellows both individually and in groups on special training projects.

Once each semester, the Dean's Office, which works closely with the Bok Center, recommends remediation and training for teaching fellows whose teaching evaluation scores are low. Programs are tailored, often in collaboration with departments and course heads, to assess and meet specific needs. Teaching fellows whose teaching is outstanding (some 10 percent, as determined by student evaluations) are awarded the Harvard University Certificate of Distinction in Teaching by the center and honored at a reception that concludes the fall teaching orientation.

The center sponsors a Head Teaching Fellows Network, which makes support and information available to those teaching fellows responsible for coordinating sections in large

courses. The center's Technology Fellows Program makes extended loans of top-of-the-line Macintosh computers. Support for teaching fellows who teach handicapped students also is available through the center, which participates in the Harvard Disabled Students' Network.

*Race in the Classroom: A Multiplicity of Experience* is a videotape and companion facilitator's booklet produced at the center used to provoke discussion among teaching fellows and faculty of this difficult but essential set of issues. The situations for its five vignettes were framed by center staff and the Office for Race Relations and Minority Affairs and acted by Harvard undergraduates. The center also has produced a short videotape on group learning in the natural sciences, *Thinking Together,* and it is completing tapes on foreign teaching fellows and on undergraduates' responses to teaching at Harvard.

The center's first interactive videodisk, developed jointly with the romance languages department, is designed to speed and improve training of instructors of elementary French. The videodisk is essentially a self-administered course, presenting the basic elements of good language teaching and an opportunity to critique examples of poor technique in the classroom.

Recently completed research projects sponsored by the Bok Center addressed:

(1) teaching elements critical to conceptual learning in a science course;
(2) the ratings given teaching fellows and the corresponding high grades achieved by their students; and
(3) male and female patterns of participation in tutorials (suggesting that women participate less when relations in the class are perceived as adversarial rather than collaborative).

Research projects currently under way address:

(1) factors that motivate students to complete or neglect assigned readings in a humanities course;
(2) whether students in sections whose teaching fellows receive high evaluations take more courses in the same area; and
(3) whether the use of videodisks in language courses benefits collaborative learning.

As part of the Bok Center's ongoing effort to evaluate its own performance, it is studying the changes in teaching performance of several different populations of teaching fellows served by the center. In addition to evaluating the center's general effectiveness, the staff also hopes to evaluate differences in teaching fellow abilities and the effectiveness of certain combinations of training and consultation.

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## Loyola University of Chicago

Loyola University of Chicago established its Teaching Fellows Program in 1988. Each year, twenty students from Ph.D.-granting departments compete to teach two courses a semester and participate in an all-university program directed by a faculty member.

The program helps doctoral students learn how to integrate teaching and research, rather than to view them as separate aspects of academic life. Teaching fellows participate in a series of weekly seminars that address issues of classroom effectiveness as well as research and publication. Administrators and faculty members from a variety of disciplines speak on topics such as lecture content and grading expectations; strategies for leading classroom discussions; understanding the undergraduate; presenting conference papers and publishing journal articles; writing grant proposals; the academic job interview process; legal issues confronting faculty; and ethical dimensions of the academic profession. The fellows also informally share their experiences in the classroom and the techniques they have found most useful in helping their own students learn. The program thus prepares the fellows to begin their academic careers as effective classroom teachers and productive scholars while also ensuring the quality of instruction they provide Loyola undergraduates.

Each teaching fellow also is assigned a faculty mentor in his or her own academic department. These faculty members help with discipline-specific concerns, review course syllabi, and offer suggestions on text selection. They also observe their fellow in the classroom several times during the year. Thus, while the weekly seminars provide a forum for an interdisciplinary exchange of ideas and discussion of topics relevant to everyone pursuing an academic career, fellows also have role models who offer advice on teaching and research in their own disciplines and who contribute to their professional development.

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## Michigan State University *(international TA program)*

Michigan State University (MSU) has 1,700 graduate teaching assistants who provide approximately 25 percent of instruction for its 33,000 undergraduate students. Support services for TAs on campus are highly decentralized; the only campus-level unit serving TAs is the Foreign TA Program. Created in 1986 to reduce linguistic and cultural difficulties between foreign TAs and their students, the program serves a hundred new foreign TAs each year with an annual budget of $100,000 and a staff of four (a full-time coordinator and three graduate assistants). Program components include:

(1) a mandatory eight-day orientation during fall term for all new foreign TAs;
(2) mandatory screening in spoken English for new foreign TAs;
(3) restrictions on teaching for TAs who do not meet the university standard of proficiency in spoken English; and
(4) required English instruction for new TAs who are on salary from their department but who do not pass screening and so are restricted.

The university's foreign TA orientation helps eighty to ninety new foreign TAs get settled

on campus and prepare for their teaching assignments each year. Faculty, experienced TAs, and undergraduate students lead the orientation sessions. The program includes practical help getting settled on campus, workshops on cultural differences and the American university system, sessions on university policies, meetings with MSU students, lectures and discussions of teaching methods, and small-group teaching practice. The program has consistently received high ratings from participating TAs.

To evaluate the spoken English proficiency of new foreign TAs, Michigan State uses a locally developed "TA interview." The thirty-minute interview is conducted and rated by trained teaching assistants from the English Language Center. It has five parts: an introduction, pronunciation of technical terms, explanation of a short article, an office hours role play, and a classroom announcement. The TAs are rated for their pronunciation, grammar, ability to understand and answer questions, and ability to explain concepts clearly. The English Language Center notifies the TA's department whether the TA is cleared for full teaching, allowed to teach only in contexts that require limited fluency, or not permitted to teach.

All TAs who receive low ratings on the TA interview must take a special noncredit English class before they may assume full classroom duties. Meeting five days a week in small sections, the class emphasizes practice in English pronunciation and speaking appropriate to the American classroom. Upon completing the class, the TAs repeat the TA interview, and those with good ratings are cleared for teaching. Eighty percent of the students eventually pass.

To extend its services, the Foreign TA Program also sponsors an international TA support group. Composed of graduate and undergraduate student volunteers, the support group welcomes new TAs into campus life and helps them become better teachers. It publishes a newsletter, provides English tutoring and an English helproom, helps at the orientation, and sponsors social activities for new TAs.

Michigan State is planning to expand central and departmental support services for teaching assistants. The most likely development will be the creation of a campus-wide orientation for all TAs who do not already receive adequate orientation in their home department. Other actions might follow.

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## Ohio State University

Most centralized TA development at the Ohio State University is housed in the Faculty and TA Development Unit of the Center for Teaching Excellence. The university's TAs also are served by the Spoken English Program, which provides language screening and training for international TAs.

The goal of the TA program is to promote the development of instructional knowledge and skills. The benefits are effective undergraduate instruction, competent and satisfied TAs, and

well-prepared future faculty members.

Ohio State's 2,500 TAs are involved in undergraduate instruction in a variety of ways: 65 percent teach a course independently; 26 percent are recitation leaders in a multisection course; 25 percent are laboratory leaders; and 24 percent grade papers. (Totals exceed 100 percent since TAs normally are involved in more than one course and hence often serve in more than one capacity.) In a 1989 survey, TAs reported spending an average of twenty hours per week on their teaching. Most TAs are on 50 percent assignment (twenty hours per week) and are involved in at least two sections of one course each quarter.

The TA-development programs offered by the Center for Teaching Excellence complement those offered in academic departments.

The center holds a three-day University Teaching Associate Workshop before the autumn quarter. Some departments require attendance, for others it is voluntary. The TAs attend plenary sessions and work in small groups with a mentor team (a faculty member and an experienced TA). Activities include videotaped teaching and group activities on general topics such as leading effective discussions, testing and grading, lecturing, preparing a syllabus, classroom management, teaching special populations, and professional ethics.

In past years, the center has held TA forums once per quarter. Previous topics have included "Juggling the Multiple Roles of the TA"; "Making Students Talk at Eight in the Morning"; and "Values and the Classroom." It also holds seminars and programs on reaching special populations throughout the academic year in departmental and centralized settings. These focus on special teaching issues of ethnicity, gender, age, sexual orientation, and physical and learning ability.

At the request of a TA, the center can schedule individual consultations for advice or feedback based on classroom observations, student interviews, reviews of teaching materials, videotaping, or student evaluations. Custom-designed workshops on a variety of topics are scheduled at the request of departments. And print materials, such as a teaching handbook and newsletter, are distributed to all TAs on campus.

The center also provides teaching development and leads teaching-for-diversity initiatives for the university's 4,000 faculty. It holds periodic conferences on TA-development strategies for TA supervisors in the departments and helps supervisors plan seminars, evaluations, and workshops in their departmental setting.

The present program staff includes four doctorate-level professionals, one graduate associate, a secretary, and three student clerical assistants. Faculty and TAs serve on advisory committees for the center and for TA-specific activities, and they contribute as mentors and presenters at TA events.

The Ohio State TA-development program is based on the principle of the reflective practitioner. The staff's thinking about teaching is rooted in the theories of Dewey, Kolb, Schön, and Lewin and is based on the belief that teaching is a complex undertaking developed by ongoing cycles of systematic experimentation and reflection. The faculty- and TA-development staff employ Roger's principles of challenge and support to create a stimulating environment. In its operations, the center recognizes the importance of staff acting in partnership with faculty and administrators

in academic departments.

The TA program began by implementing an orientation program, but several follow-up studies indicated that ongoing services were just as important. At a large university, collaborating with TA coordinators in the department is an essential means of reaching all TAs. Helping TA coordinators build the knowledge and acquire the resources they need to promote ongoing TA development in the departmental setting is thus the main direction for the future.

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## Pennsylvania State University

The Instructional Development Program (IDP) is a unit of the Office of Undergraduate Education charged with supporting and encouraging instructional effectiveness in the Penn State system. Much of IDP's resources are allocated to the assistance and support of graduate TAs in their instructional duties. In 1989, the Faculty Senate mandated instructional preparation for TAs according to six guidelines:

(1) explicit direction regarding course goals and objectives for the course being taught;
(2) instruction in generic teaching strategies (e.g., how to question, foster higher-order thinking, construct and grade exams, manage the classroom environment);
(3) coaching in those effective teaching strategies that are discipline-specific (e.g., problem-solving methods, discussion methods, group inquiry, skills teaching methods);
(4) proper supervision and mentoring of TAs in their role as teacher;
(5) formative feedback during an instructional assignment; and
(6) proficiency in English for international teaching assistants (ITAs).

Individual departments, programs, and colleges are responsible for ensuring that their TAs are prepared, in most cases with the assistance of or in collaboration with IDP. Guidelines One, Three, and Four are most appropriately addressed by departments and colleges; IDP is well equipped to address Guidelines Two and Five; and the Center for English as a Second Language, in the Speech Communication Department in the College of Liberal Arts, addresses Guideline Six. Thus, the Penn State approach to TA training is a multilevel partnership of centralized and decentralized efforts at all levels, assisted and advised by IDP.

IDP programs run along three tracks. To assist departments in addressing the Faculty Senate legislation and to give TAs and new faculty "survival" training, IDP runs a presemester orientation. In two and a half days, novice instructors are introduced to some of the basic issues in pedagogy, organized according to a developmental paradigm. Introductory programs focus on the characteristics of learning and learners, strategies for organizing content, and different approaches to and styles of teaching. IDP also offers supplementary programs on classroom

management, holding office hours, teaching labs and recitations, dealing with diversity, and motivating students.

IDP also offers faculty and TAs a semester-long noncredit mini-course in college teaching. The course builds on the foundation of pedagogical knowledge they have gained in prior teaching or by participating in the introductory program. Reading assignments; formative evaluation activities, such as mid-semester evaluations (open or closed question types) and videotaping with consultation; discussion; and reflective writing are features of the course. TAs who complete it receive IDP's TA Certificate of Participation.

Faculty and TAs participate jointly each semester in Seminars on Teaching. Here, Penn State master teachers briefly address a topic of personal pedagogical moment, followed by roundtable discussion. The series was so well received by faculty and TAs last year that it will be expanded; a whole series devoted to issues such as dealing with difference in the classroom, writing, and higher-order problem solving will be added.

Individual support activities are also a large part of IDP's services. IDP provides consultation to departments and individuals consisting of discussions about instructional issues of concern, individual classroom observations and accompanying consultations (with individual faculty or groups of faculty), analysis of in-class videotaped teaching samples, and debriefs of mid-semester evaluations. IDP also produces a newsletter and handbooks and offers other adjunct library services.

Future directions for the program include even greater interaction with departments and colleges and assessment of TAs' actual learning. These goals are consistent with the unit's philosophy that teaching is both an art and a craft, and that it can be learned and improved with experience guided by research and knowledge of specific instructional strategies.

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## Stanford University

Over the last decade, Stanford University has devoted increasing attention to its teaching assistants. Through the work of groups such as its Committee for Graduate Studies, as well as resolutions of the Faculty Senate[1], Stanford has sought to define more precisely the purpose of graduate student teaching. While acknowledging teaching as a source of financial support for graduate students, the committee has strongly emphasized the contribution TAs make to undergraduate education, and the importance of teaching experience as an essential form of professional development. Suggested guidelines would have TAs receive two types of training: in general principles and techniques of good teaching and in discipline-specific pedagogical issues.

Stanford's Center for Teaching and Learning (CTL) provides general training and support services to TAs and assists departments to develop discipline-specific programs to train their TAs. CTL's coordinator of TA training directs a staff of forty-five graduate students, who serve as volunteer

teaching consultants and/or departmental liaisons.

CTL's training program consists of four parts:

(1) quarterly orientations to teaching for students in all disciplines;

(2) frequent workshops addressing important issues;

(3) ongoing support services for all TAs (available to faculty as well), concentrating on videotaping, video consultations, and student small-group evaluations; and

(4) print and videotaped instructional materials.

Every September, CTL offers a one-day orientation to teaching for all TAs. In presentations and workshops, the orientation introduces students to fundamental concerns and methods of practical pedagogy, as well as to more philosophical issues such as multiculturalism and student-teacher interactions. Attendance is recommended by both department chairs and deans. During the winter and spring quarters, CTL offers a two-hour "mini-orientation" to teaching.

CTL's regular workshops vary, from practical how-to presentations ("Teaching Your Own Science Course" and "Public Speaking for Graduate Students") to forums discussing important teaching issues ("Gender Bias in Teaching and Grading" and "Learned Helplessness and Mastery in the Classroom"). CTL presents three to four workshops each quarter; it also sponsors special programs, such as a week-long series of events celebrating teaching for the Stanford Centennial.

The backbone of CTL's continuing support services is the Teaching Consultants Program, through which CTL performs about 100 video consultations and small-group evaluations each year. CTL's staff of teaching consultants consists of outstanding TAs recruited from many departments, who are trained to evaluate and guide other TAs. In 1991-92, the twenty-one teaching consultants were joined by twenty-four graduate students as liaisons between their department and CTL. These liaisons have helped publicize CTL services and events and have enabled CTL to work closely with more departments to design department-based TA-training programs.

CTL also publishes and distributes an extensive handbook on teaching, *Teaching at Stanford*; a folder of tips for effective teaching, *Getting Started: Teaching Tips for Stanford TAs*; and the quarterly, four-page newsletter *Speaking of Teaching*. CTL also maintains a library of more than forty videotapes of talks and discussions on a wide range of teaching concerns, such as lecturing, leading discussions, and managing time.

In 1989, under the leadership of Dean of Humanities and Sciences Ewart Thomas, Stanford began a new TA program to recognize and support outstanding teaching. The Centennial Teaching Assistant Program sponsors awards to outstanding TAs from every department in the schools of Humanities and Sciences, Engineering, and Earth Sciences, and it funds departmental TA-training programs. Some nineteen departments have received grants in the last three years, and CTL has assisted many of them in establishing or enhancing training programs. These initiatives have brought CTL substantially closer to its goal: a broad network of preparation and support for TAs at Stanford in which both departments and CTL provide forms of training that complement each other, and which will enable TAs to derive the maximum benefit from their teaching.

Note

1. For more specific information, see the Stanford Faculty Senate resolution SenD#3480, "Use of Teaching Assistants," and the draft of "Guidelines for Training and Evaluation of Student Teachers," published in Stanford's *Campus Report*, April 3, 1991, pp. 16-17.

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# Syracuse University

Syracuse University established its TA Program of the Graduate School in 1987. It was founded to provide a summer orientation for new teaching assistants, but the program's role and responsibility have broadened considerably. Today, it works in partnership with the sixty academic departments that appoint teaching assistants and teaching associates to offer a variety of services and programs: academic-year professional-development seminars; a year-long course for selected international TAs entitled Oral Communication in Teaching; an Outstanding TA Awards Program; and a teaching consultation service. Then, in 1992, with support from The Pew Charitable Trusts, FIPSE, and the Syracuse University Chancellor's Fund for Innovation, the TA Program launched the Future Professoriate Project, an ambitious effort to prepare future college and university faculty more comprehensively.

The Teaching Assistant Orientation Program provides a twelve-day, all-university summer orientation for some 325 new TAs each year. The August orientation has three major components: a five-day international TA program; a four-day general program for all TAs that focuses on teaching; and a three-day period for training and orientation by sponsoring academic departments.

The orientation's international TA program consists of intensive language testing and evaluation, practical assistance from the Office of International Services (finding housing, assisting with banking, immigration, insurance), and general sessions on topics such as "Teaching American Students," "American Slang," and "Culture Shock." A highlight of the week is the American Family Evening — an opportunity for each new international TA to join a university-affiliated family for dinner and an evening of relaxation.

The orientation's general program balances large-group seminars led by Syracuse faculty members and small-group workshops led by twenty-four teaching fellows, who are outstanding, experienced TAs. Faculty members address general topics such as "Ideas for an Effective Presentation," "Teaching at the University Level," "Diversity in the Classroom," and "Leading a Discussion." In the popular microteaching exercise, teaching fellows videotape presentations delivered by each new TA and then lead small groups in constructive critiques of the videotapes. Other small-group exercises allow new TAs to lead discussion groups, attend concurrent sessions

devoted to specialized teaching situations (motivating students, laboratory instruction, designing a syllabus, critiquing in the arts), and discuss classroom problems typically faced by new TAs.

The orientation's three-day departmental component introduces TAs to discipline-specific graduate and undergraduate curricula and departmental practices and provides an orientation to their assigned teaching duties.

International TAs who need to improve their English participate in a year-long course entitled Oral Communication in Teaching, which meets three hours weekly to focus on improving oral language proficiency and includes a weekly, ninety-minute laboratory devoted to teaching practice and the dynamics of the American classroom. The publication *English-Language Proficiency for International Teaching Assistants: Policies and Services* describes these efforts in detail.

Professional-development seminars offered throughout the academic year promote the philosophy that TAs must continually explore teaching-related topics and issues as an essential part of their professional growth. A typical seminar includes a general session on a major topic such as "The Teaching Portfolio"; concurrent sessions on "Voice and Presence," "Evaluating Your Teaching," "Responding to Student Writing Across the Curriculum," and "Using Media"; and informal conversations over dinner.

The program employs two experienced TAs as graduate teaching consultants. They provide a host of services on request: classroom visits and follow-up consultations; videotaping of TAs' classes; and professional-development seminar and workshop planning.

All new students receive *Teaching Assistants and Teaching Associates at Syracuse University: A Message for Undergraduates* to communicate positively the important role TAs have in undergraduate education. Two undergraduate advisors are employed during the August orientation to participate in panel sessions, help assess the international TAs' language skills, and generally provide an undergraduate student perspective.

Since 1989, an Outstanding TA Awards Program has recognized the accomplishments of those TAs who have made truly distinguished contributions to teaching. Awards are presented by the vice chancellor and the dean of the Graduate School at a formal ceremony held each spring.

*Future Professoriate Project.* Orientation programs for TAs can be coordinated effectively by a central office, but the ultimate responsibility for preparing graduate students for university teaching careers rests with the faculty in their respective discipline or professional field. The TA Program has secured external funding to develop, in conjunction with individual academic departments, three new initiatives collectively referred to as the Future Professoriate Project to more comprehensively prepare teaching assistants for academic careers:

(1) Selected faculty in each academic department participating in the Future Professoriate Project have been designated as faculty teaching mentors. Mentors participate in a three-day conference to explore ways their discipline or professional field might better prepare graduate students to join the professoriate. Four follow-up seminars for mentors during the academic year continue the important dialogue.

(2) The second initiative is a new predoctoral teaching appointment for specially qualified graduate

students with at least one but usually two years of experience as a teaching assistant. These "teaching associates" receive more advanced teaching apprenticeship assignments, which typically include primary responsibility for teaching an undergraduate class under the supervision of a faculty teaching mentor.

(3) The capstone to the Future Professoriate Project is the Certificate in University Teaching, awarded to teaching associates who pursue a rigorous program of professional development within the context of their academic discipline. All teaching associates earning a certificate will develop, in conjunction with their faculty teaching mentor, a teaching portfolio that documents their experience and progress as teaching assistants and teaching associates at Syracuse University.

(To receive a *Prospectus* describing the Future Professoriate Project, contact the TA Program at Syracuse.)

The preparation of graduate students for teaching as well as research is rapidly becoming a hallmark of graduate education at Syracuse University. Alongside other Syracuse efforts to broaden definitions of scholarship and emphasize and reward teaching, its TA Program is contributing to a changing campus culture and the creation of a student-centered research university.

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# University of California, Berkeley

Primary responsibility for training, supervising, and evaluating graduate student instructors (GSIs) resides within the departments that appoint Berkeley's 2,500 GSIs each year. However, the Graduate Division's Office of GSI Training — created in 1989 — is the centralized unit that implements policy and coordinates and promotes training efforts.

The program's goals are to help GSIs become self-confident, effective, and efficient in their present teaching positions and future careers. To achieve those goals, the staff works with GSIs, department administrators, campus-wide faculty committees, faculty who are teaching with and training GSIs, and various campus units that provide services and resources for GSIs.

GSIs may not be appointed for more than 50 percent time (twenty hours per week) during the semester. Most GSIs are 50 percent and teach more than one discussion or laboratory section of one course each semester.

Prospective GSIs who are not native speakers of English are screened for oral proficiency, taking either the Test of Spoken English (TSE) in their own country or the Speaking Proficiency English Assessment Kit (SPEAK) once they arrive here. English language workshops are available for students who score poorly on these tests and on the follow-up Oral Proficiency Test. They must pass to qualify for a teaching appointment. The Office of GSI Training sponsors the screening and workshops and provides several services to complement departmental training efforts.

Among these services are fall and spring orientation and training programs (one day each) for new GSIs. These include two plenary sessions — one with a welcome by the chancellor or a top administrator and a keynote by a well-known faculty member, often a winner of the Distinguished Teaching Award. The pedagogical activities include a workshop on how to prepare for the first two weeks of teaching; small-group sessions on topics such as methods of evaluating teaching in progress, motivating students, using office hours productively, or working with supervising faculty; and special sessions on special topics such as women as GSIs or teaching in a multicultural environment. These groups are led by experienced GSIs and faculty.

A forum meets three to four times each semester. This short presentation and discussion on topics of particular interest to GSIs at all levels and across all disciplines might cover alternatives to the traditional discussion section, teaching by the case method, collaborative learning, or creating a teaching portfolio. Colloquia, often co-sponsored with departments or special-interest groups such as the Center for International and Area Studies, are offered once or twice a year so GSIs from related disciplines can exchange ideas. A speakers bureau, coordinated by the Office of GSI Training, provides experts from many units on campus to speak to GSIs in pedagogical and special-interest workshops and seminars.

Consultation is available to both faculty and GSIs to plan or improve training programs and to work on individual teaching effectiveness. In addition, the office staff train faculty and head GSIs who teach with or train other GSIs to provide guided videotape consulting.

The Office of GSI Training administers two grant programs. Course Improvement Grants enable GSIs to improve their labs, sections, or courses; awards may not exceed $300 and require an evaluation of a project's success. Grants to faculty for comprehensive programs in GSI training are awarded either by application or invitation; of these funds, one third are awarded to departments that apply for funds to establish or improve a GSI-training program, and two thirds are awarded to targeted departments. Targeted departments have a sizeable number of GSIs; have some incipient form of training, but would benefit from additional attention and support; and are willing to receive these services and work with a consultant. The office also funds complementary peer training projects, such as the Graduate Assembly publication *Learning to Teach.*

An Outstanding GSI Award ceremony and reception is held each spring for selected GSIs (not to exceed 10 percent of GSIs appointed in any department). Two hundred certificates are awarded each year. Administrators and relevant faculty are invited. A Teaching Effectiveness Award recognizes outstanding GSIs who have implemented a teaching strategy or technique to respond to a particular teaching or learning problem they have identified in their lab, section, or course.

In spring 1993, a seminar lasting two and half days will prepare faculty to train GSIs. Most faculty admit to feeling insecure about their own teaching skills, especially at teaching others to teach. Never having been trained themselves, they are thrust into the position of training their graduate students to teach.

Printed materials complement departmental training efforts. The *Departmental Handbook for GSI Training,* first published in 1991, is Berkeley's first campus-wide guide for faculty responsible for training and supervising GSIs. The office also has compiled a guide to campus resources

for GSIs and has produced articles, handouts, and tip sheets for particular events.

The Office of GSI Training is staffed by one coordinator, three part-time advanced GSIs (campus-wide consultants), and an office manager. These GSIs are involved in all facets of campus-wide training. They are chosen for their teaching experience, communication skills, and demonstrated interest in pedagogy.

The Graduate Council, a committee of the Academic Senate, has requested that each department appointing GSIs name a faculty advisor for GSI affairs (a ladder faculty member of associate rank or above) to coordinate and promote departmental training efforts and to serve as the contact between GSIs, department faculty, and the Office of GSI Training. These advisors meet once each semester with the Graduate School dean, the dean in charge of GSI training, the Academic Senate committee for GSI affairs, and the Graduate Division's GSI training staff.

The Office of GSI Training believes that quality teaching is an open, evolving, risk-taking activity. Its programs and workshops model and encourage that tenet. It emphasizes complementing and supporting the faculty's training efforts to ensure continuity and commitment to departmental training in the future.

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## University of California, Santa Barbara

The Graduate Division and the Graduate Council determine campus guidelines for TA employment and training. Academic departments provide departmental and course-specific training to all TAs, while the TA Development Program (TADP) provides campus-wide training activities, acts as a resource and consultation service for departmental training programs, provides instructional-development opportunities for TAs, and works closely with other campus units on projects and policies.

The Graduate Division and the English as a Second Language (ESL) Program ensure that international TAs (ITAs) meet the language requirements necessary to undertake their first assistantship. Both the TADP and ESL Program help ITAs improve their language and classroom skills.

The TA support services the TADP provides are similar to those provided to faculty through the university's Instructional Improvement Program. The TADP's goals are to support and improve undergraduate education by training first-year graduate student TAs, to offer TAs instructional-development opportunities throughout their graduate student years, and to prepare TAs for their future role as faculty members.

Twenty-one of thirty-five academic departments require their first-time TAs to attend the TADP's day-long, campus-wide orientation; most other departments encourage it. All new TAs, regardless of whether they are able to attend the orientation, receive a handbook on teaching. Nearly every academic department also offers its own orientation program, except departments

with only two or three TAs.

The TADP offers a videotape and consultation service. Experienced TAs are trained by the TADP to facilitate the TAs' viewing of these confidential tapes.

Through its departmental grant program, the TADP also funds departmental TA-training activities. Such projects have included expanded orientations for new and experienced TAs; TA orientation manuals and discipline-specific videotapes on instructional issues; quarter-long TA-training seminars; and symposia on teaching. Each year, thirteen to twenty-two departments receive between $35,000 and $55,000 in grants for such purposes. Final reports and self-evaluations are required.

The TADP's instructional grant program helps TAs develop instructional materials and procedures to benefit undergraduate instruction, as well as develop skills in grant writing, instruction, and evaluation. The program has produced many effective products, including computer-based tutorial programs in music; multiscreen slide/audiotape presentations integrating art, history, and music; and pilot-tested laboratory manuals in the sciences. Some twenty grants are awarded each year, averaging $1,370 per grant, predominantly for TA stipends.

The TADP produces materials for TA training and development in cooperation with TAs and faculty. Numerous discipline-specific videotapes show TAs using effective classroom techniques; they are used to stimulate discussion in departmental TA-training seminars. The TADP maintains an extensive lending library of books, articles, and videotapes, available to departments and TAs, and it sponsors campus-wide workshops on teaching skills. Occasionally it brings national speakers to campus to speak on topics such as inclusive curricula and teaching to diversity.

ITAs receive special attention: Each new ITA receives the UCSB-produced publication *The International Teaching Assistant Handbook: An Introduction to University and College Teaching in the United States,* which describes the American educational system, teaching techniques to overcome language and accent difficulties, and language tips for the classroom and reviews faculty and student expectations of TAs. For ITAs who need or want further assistance in adjusting to the American classroom, ITA seminars are offered throughout the fall quarter.

The *University of California Academic Personnel Manual* defines the teaching assistantship, TA duties, and other conditions of employment. As half-time employees, TAs are expected to devote an average of fifteen to twenty hours a week to TA duties, including preparation, classroom and laboratory teaching, office hours, and grading.

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## University of Colorado at Boulder

The Graduate Teacher Program (GTP), a centralized TA-development program, is housed in the Graduate School. The program director works closely with deans, chairs, and graduate advisors to prepare graduate teaching assistants to teach effectively during their tenure on campus and

to provide them with an effective apprenticeship as future faculty. Half of the academic departments on campus also provide some level of discipline-specific TA development.

The university's 1,000 graduate teachers perform various functions, ranging from grading and holding office hours to leading laboratories or recitation sections to teaching first-year through fourth-year courses. Some 18 percent of them are international students.

The program sponsors several teacher-training activities, including a three-day GTP Fall Intensive and two-day GTP Spring Intensive before classes begin; six to ten Friday Forum sessions each academic year; and five Summer Series sessions. Although these sessions are optional, attendance is high. The GTP also holds at least one mini-conference on a special topic each year. In 1992, all the foreign language TA supervisors collaborated on a mini-conference on teaching for oral language acquisition; during the spring semester, a two-day conference on equity issues was held. A one-day International TA Cultural Training Intensive is held prior to the fall semester each year. Follow-up activities are presented throughout the fall semester.

The GTP conducts a summer orientation program for lead instructors and provides a manual on conducting home department TA-training activities.

The program staff provides individual assistance to graduate teachers who request help; videotape consultation is provided upon request. Departments may request assistance with special topics.

The GTP produces a quarterly newsletter on teaching for all faculty and graduate teachers. The *Graduate Teacher Program Handbook* features articles by local faculty. The GTP also provides a small library of videotapes and printed materials on teaching.

The GTP works in tandem with academic departments to encourage graduate teachers to improve their teaching. A certification program requires more than fifty hours of work, including attendance at GTP activities, participation in home department TA-training activities, two videotape consultations, the creation of a teaching portfolio, and home department observation and evaluation. The Graduate School awards certificates at a ceremony for outstanding graduate teachers each year; 100 graduate teachers have volunteered for the certification program.

Program staff includes the director, five graduate assistants, and two student clerical assistants. A faculty advisory committee assists the director; approximately sixty faculty members volunteer their time to assist with the program each year.

The Graduate Teacher Program was formed in 1984 through the collaboration of the Graduate School, the Graduate Student Advisory Council, and Academic Services, expanding from a one-day Fall Intensive. Each activity is evaluated by participants, and end-of-year evaluations are sent to all participants. Feedback from these evaluations informs planning.

Plans include working even more closely with TA supervisors to meet their needs, extending the lead instructor program to all departments, and working toward 100 percent participation in TA-training activities.

The Graduate Teacher Program is based on Schön's principle of the reflective practitioner, Kolb's research on learning styles, David Way's method of videotape consultation, David and Myra Sadker's work on equity and excellence in the nonbiased classroom, and the Wingspread

Faculty Inventory. The intent is to encourage novice teachers to expand their self-awareness, to recognize and support student differences, and to see the development of their teaching style as a career-long pursuit.

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## University of Delaware *(international TA program)*

The university's International Teaching Assistant (ITA) Training Program, which began in 1985, is sponsored by the Office of the Provost and administered by the English Language Institute. All international students newly appointed as TAs must attend the four-week August program; for their participation, they receive support equivalent to one month of their TA stipend.

The program prepares the ITAs for their teaching responsibilities by providing special instruction in speaking and listening skills for the classroom, as well as a cultural/pedagogical orientation to the American university and the University of Delaware in particular.

The English Language Institute screens participants at the beginning and again at the end of the August program for their instructional English competency, using the Speaking Proficiency English Assessment Kit (SPEAK) and the UDIA, a teaching test that assesses language, cultural, questioning, and basic teaching skills in an instructional setting. Scores of 250 or above in both tests qualify an ITA for unrestricted classroom contact. ITAs whose scores fall below 250 are assigned limited or noninstructional duties; however, they are supported financially and attend a language-development tutoring program for the fall semester at the English Language Institute. At the end of that semester these ITAs are retested.

The August program's linguistic training activities include:

(1) a drama-based oral intelligibility class, which addresses specific aspects of ITA speech that affect comprehensibility (intonation, stress, rhythm, pitch, projection, reductions, fluency, idiomatic language);
(2) afternoon small-group tutoring sessions of one and a half hours to improve pronunciation of individual ITAs whose speaking proficiency is particularly poor; and
(3) daily instructional communication activities during the culture/pedagogy class.

The ITAs are orientated to the American university classroom primarily through contact with undergraduates in mock teaching situations and in feedback on these sessions. Additional presentations by administrators and faculty address topics relevant to the University of Delaware. The pedagogical component of the program focuses on practicing basic teaching skills such as making effective oral explanations, asking and answering questions, leading discussions, developing tutoring and conferencing techniques, recognizing and handling acceptable and unacceptable student behavior, and establishing rapport and a supportive classroom environment. The ITAs apply what they learn in context in a series of videotaped teaching simulations. The taped

performances are reviewed and critiqued with the instructors for linguistic clarity, cultural appropriateness, and pedagogical effectiveness.

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## University of Illinois at Urbana-Champaign

The university appoints more than 2,400 TAs every year, 2,000 of whom have direct classroom teaching responsibilities. Of this 2,000, some 900 TAs are new to campus each year. While there is no campus-wide requirement that TAs participate in a formal training program before and during their appointments, 700 or so of these new TAs are required by their academic units to participate in UIUC's centralized TA programs. Almost all of the remaining 200 new TAs participate in programs implemented by the academic unit in which they will teach.

Centralized TA-development services are housed in the Division of Instructional Development (DID), in the Office of Instructional Resources (OIR). Two other divisions (Measurement and Evaluation, and Instructional Media Technology) also reside in the OIR and assist in the programs. International TAs are further serviced through a joint effort between DID and the Division of English as an International Language (see next abstract).

The program's goal is to integrate TA-development activities with those of faculty development to most effectively and efficiently provide TAs with long-term career growth and with success at teaching that complements rather than overrides their success as learners.

The centralized TA programs complement those offered in academic units. The All-Campus Teaching Assistants' Orientations, held just before the fall and spring semesters, last two and a half days. Most TAs are required by their academic units to participate. The orientations are a mixture of plenary sessions; small, highly interactive, discipline-specific sessions; and microteaching/playback sessions. The plenary sessions cover general teaching topics, with prominent figures on campus facilitating and speaking. The small sessions are facilitated by faculty members noted for their teaching excellence and by TA fellows. The TA fellows are chosen jointly by DID staff and their department and must go through a DID orientation and program, demonstrate teaching excellence, and attend DID's all-day train-the-trainers session; the faculty are typically those appointed to supervise TAs within their department who choose to attend the train-the-trainers session. Both groups facilitate five small-group sessions. There are twenty-three such sessions in the August orientation.

Follow-up workshops are held at least twice during the first semester the TAs teach. Some are part of the regular TA program; others are requested by individual departments and course coordinators. These are typically in-depth and cover topics such as test construction and grading, student feedback and evaluation, facilitative feedback in the studio and lab, and critical thinking.

Classroom videotaping during the TAs's first semester of teaching is followed by a one-

hour, one-on-one consultation with DID staff. TAs also receive informal early-semester student feedback each semester they teach for all their class sections. These surveys are integrated with the video consultation.

Print materials also are available, including *The Illini Instructor* (series 1-9), five teaching handbooks, and a two-page insert for TAs in the biannual UIUC Graduate College *Graduate Student Newsletter.*

DID's services and activities are evaluated by TA participants at orientation; by students twice during the semester; and by feedback from faculty in each TA's department. Over time, these results have provided the impetus to:

(1) expand existing TA activities to include more TAs;
(2) provide the basic instructional orientation before school begins, rather than after;
(3) decrease inservice workshops while maintaining the two activities TAs ranked highest (mid-semester student feedback and classroom videotaping with consultation);
(4) change orientation topics (such as including hands-on concept mapping activities and altering microteaching directions to include concept mapping); and
(5) provide high-quality lunches and refreshments at the orientations.

The DID program staff includes three doctorate-level professionals, three master's-level professionals, and a clerical staff of two. By serving on campus committees and boards, the professional staff also provide services to some 5,000 faculty members, eighty-three academic units, and twenty-five campus colleges. Each staff member is assigned a particular area of campus. The staff also work collaboratively with academic units who do not use the centralized program but want consultation in teaching, learning, and evaluation for their own TA-training efforts.

The UIUC program began more than fifteen years ago with the Department of Economics and twenty TAs. All DID programs for TAs were at the department/course level until January 1987, when DID experimented with its first all-campus TA orientation; only twenty-seven TAs participated. Today, the program assists more than 700 TAs, with an integrated, centralized, and discipline-specific focus. Its steadfast goals are to continue one-on-one classroom videotaping and early-feedback consultations and to expand discipline-specific teaching activities for experienced TAs at the department and campus college levels, while including critical-thinking theory and research results.

The philosophy that guides all DID services is one of partnership with any academic unit or individual striving to achieve excellence in teaching and scholarship. The staff applies sound theory and research of the disciplines and of effective teaching practices, for the ultimate goal of student learning and growth. TA development takes time, and it cannot be separated from faculty-development or other development activities within academic units. DID approaches TA development as part of life-long learning for any future profession, not just the professoriate.

TAs with outstanding teaching records are eligible for rewards at the departmental, college, and campus levels. The capstone reward event is an all-campus instructional banquet, held in the spring, where one to four TAs and four to eight faculty members receive financial awards and recognition as that year's outstanding UIUC instructors.

Funding for TA programs and activities comes mainly from the Office of the Vice Chancellor for Academic Affairs, with additional support from the Graduate College, academic units, and private grants.

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## University of Illinois at Urbana-Champaign *(international TA program)*

The university appoints more than 2,400 TAs every year, 2,000 of whom have direct classroom teaching responsibilities. Of this 2,000, some 500 are international TAs (ITAs); of them, half are new to teaching.

The goal of UIUC's centralized international TA program is to ensure the oral English proficiency of ITAs so they can teach in English in UIUC classrooms. It further seeks to provide ITAs with:

(1) linguistic, crosscultural, and pedagogical skills necessary for successful instruction, specifically in the UIUC classroom and ultimately in any classroom;
(2) acculturation to the professoriate and the American college campus; and
(3) experiences that recognize, value, and use ITAs' differences when appropriate but that do not separate them from their American peers.

In fall 1986, Illinois passed a law requiring that all instructors be proficient in oral English. Concurrently, UIUC's vice chancellor for academic affairs designed a policy and program to bring the campus into compliance with the new law and made the academic units doing the hiring responsible for assuring that all parts of the policy were enforced. The policy applies to "all individuals for whom English is not the native language," but the term "international TA" is considered an appropriate acronym. Further, the policy applies to *any* teaching experience, including office hours, labs, team teaching, and so on.

Centralized ITA screening, development, and monitoring is housed in the Division of Instructional Development (DID), in the Office of Instructional Resources (OIR). Two other OIR divisions (Measurement and Evaluation, and Instructional Media Technology) have major roles in the ITA programs. Joint teaching appointments of DID staff with the Division of English as an International Language allow a collaborative and expert effort in second language acquisition.

The policy has three requirements for prospective ITAs. They must:

(1) take the Test of Spoken English (TSE) or Speaking Proficiency English Assessment Kit (SPEAK) assessment and pass with a score of 230 or higher; then
(2) attend the all-campus ITA and TA orientations and other improvement and development activities; and then

(3) be actively monitored by their academic unit during the first semesters that they teach. Students who do not pass the assessment must participate in an approved oral English improvement activity before they may retake the SPEAK assessment.

Improvement and development activities fall into three categories: orientation, English as a Second Language (ESL) courses, and language improvement workshops. The ITA orientation runs for five and a half days before the fall and spring semesters; participants meet alone the first three days then join the all-campus TA orientation for the remainder. Topics covered include crosscultural communication; oral English discourse; the culture of the American classroom; and English pronunciation, fluency, and comprehensibility skills. Activities include an undergraduate student panel session, sessions facilitated by experienced international faculty and ITAs, and three videotaping/playback experiences with feedback from ESL and DID staff. Final screening takes place during these consultative feedback sessions.

The second part of the program improves oral English proficiency. ITAs take ESL courses according to their needs. Two ESL courses are offered each semester specifically to international graduate students who wish to be TAs.

The third part is a series of language improvement workshops, offered to no more than eight students each of the three school terms. These workshops assess specific problem areas and emphasize highly interactive practice in oral English. Once students have fully completed one of these courses or workshops, they may retake the SPEAK.

In the monitoring program, the staff provides consultative services if the hiring academic unit requests it. These services typically including classroom visits, videotaping/playback of classroom teaching, and early-semester student feedback. The academic unit must make records of the monitoring available in its central office.

Two full-time positions were created to administer the majority of the ITA program; each caries a teaching appointment in the Division of English as an International Language. These staff hold master's degrees in ESL; they also have had instructional-development experience with native and nonnative speakers of English. Thus, they can design activities and apply perspectives that integrate practical aspects of American classroom teaching with language instruction.

The relationship between the Division of English as an International Language and the DID is very close. DID, reporting to the vice chancellor for academic affairs, designs and administers the entire centralized program and budget, making use of the expertise and course offerings within the Division of English as an International Language. The Division of English as an International Language designs its courses with communicative methodology and tailors them to the needs of its special population. The Office for International Students Affairs offers social and official activities to help the international students successfully acculturate and settle legally in the United States and on campus; its activities and staff are integrated into the orientations.

Funding for the program comes almost entirely from the Office of the Vice Chancellor for Academic Affairs, through the Division of Instructional Development budget, with two of the teaching appointments funded partially through the Division of English as an International Language.

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# University of Michigan

The central TA-training program is located at the Center for Research on Learning and Teaching (CRLT). Its goals are to help develop effective training for all TAs, thereby improving undergraduate education; to help TAs feel at ease in the classroom; and to prepare graduate students for future teaching careers. The center's programs support and supplement training programs located within the departments and colleges.

Some 1,800 teaching assistants teach 40 to 45 percent of undergraduate classes. Their duties range from teaching a course independently to grading papers for a large course.

The Office of TA Training and Development at CRLT offers programs for individual teaching assistants (including a special program for international TAs described next) and helps departments and units on campus with their own training programs.

The following programs are available to any TA and are intended to supplement departmental training. Departments often encourage and sometimes require their TAs to attend them:

(1) Two-day teaching orientations for new TAs held before the fall and winter semesters to help them prepare for their first teaching assignments. TAs attend plenary sessions and choose from many concurrent workshops on teaching.

(2) A series of fourteen to sixteen workshops available to all graduate students throughout each semester. The workshops cover a wide range of topics on teaching, going beyond the basic training offered by other units on campus. Each focuses in depth on a particular aspect of teaching.

(3) Individual consultation on request, including optional classroom observation and videotaping services.

(4) A TA guidebook with basic information about teaching.

The following services assist departments to develop and refine their own TA-training programs:

(1) Consultation on designing a new TA-training program, refining a segment of an existing program, or planning new components of a program.

(2) Departmental workshops designed by CRLT staff. Departments can choose from existing workshops, which are modified for their needs, or request a workshop be created to address a particular teaching issue or technique.

(3) Training sessions for trainers in departmental TA programs. Training sessions cover effective mentoring, facilitating mid-semester feedback sessions, facilitating microteaching sessions, and

more.

(4) Periodic meetings for TA trainers from across the university to exchange ideas about TA training.

(5) Mid-semester feedback sessions for all TAs teaching sections of a large course. TAs receive individual feedback; the department receives information about the course as a whole.

(6) Videotaping services to help create illustrations of specific instructional situations (e.g., facilitating effective discussions).

CRLT programs give TAs experience in a variety of methodologies that will help them develop a classroom climate that fosters active involvement, critical thinking, and respect for the diversity among students. The variety of methodologies exposes TAs to the different techniques that they, in turn, can use in their classrooms. The programs help TAs shift from teacher-focused to learner-focused instruction. They are encouraged to reflect on their teaching, identify their own skills and build on them, and share their ideas about teaching with other TAs.

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## University of Michigan *(international TA program)*

The International Teaching Assistant (ITA) Training and Development program of the university's Center for Research on Learning and Teaching (CRLT) offers, in collaboration with the English Language Institute (ELI), three-week intensive workshops to prepare international graduate students for their role as teaching assistant. The program also offers follow-up services, such as classroom observations, individualized consultation, and scheduled group meetings to support the ITAs during their critical first year of teaching. The first workshop was piloted as an optional program in the summer of 1985.

Since 1987, when the College of Literature, Science, and the Arts made the workshop a requirement for all ITAs, two workshops have been held annually: a May workshop for graduate students already on campus and another in August for new arrivals expected to begin teaching during the first year of graduate studies. The purposes of the workshops are to:

(1) broaden and strengthen each participant's repertoire of teaching skills;

(2) increase awareness of American educational practices and American culture; and

(3) improve fluency in English.

Workshop instructors employ a variety of methodologies, including extensive videotaping, small-group discussions, role playing, language laboratory sessions, panel discussions, and occasional lectures. The format offers extensive practice of English in an informal academic setting; it also establishes a basis for an ongoing support network among ITAs.

Following the workshop, students receive written evaluations from workshop staff, and they are tested independently at the ELI. These assessments are used to determine their readiness for teaching and the appropriate level of assignment, and to recommend further coursework at the ELI. An oral screening, conducted by an ELI staffer and a faculty member from the graduate

student's department, combines an oral interview, a role play, a presentation, and responses to videotaped questions. Standards are relatively high; although the average TOEFL score for participants in the most recent year was over 600, nearly one quarter of the workshop participants were referred for further coursework at the ELI prior to placement, and many others are expected to take concurrent coursework. (Students must eventually re-take and pass the ITA screening before they may receive a TA assignment.)

The workshop curriculum evolves depending on the needs of TAs, current issues in the classroom, departmental suggestions, and feedback from previous participants. Recently, new sessions were developed on multicultural teaching, gender issues, individual learning styles, and intercultural communications. In general, the program emphasizes "active learning" and the development of a classroom climate that fosters constructive interaction and critical thinking. Participants are trained in methods of questioning, problem solving, and discussion. The core of the workshop includes videotaped practice teaching sessions, designed to be progressively longer and more interactive. Participants receive feedback from one another, from workshop faculty, and from experienced staff TAs, as well as through self-reflection and examination of the videotapes. Trained undergraduates also are paid to participate in the teaching simulations and the feedback process.

Participants are enrolled in a one-credit-hour course, College Teaching in the U.S.: Pedagogy, Culture, and Language, which encompasses both the workshop and monthly follow-up sessions during the fall term. These classes focus on issues of common concern during the first term of teaching, provide information on testing and on the end-of-term student evaluations of teaching, and pair students to observe each other's classes.

Participants also are encouraged to take advantage of individualized follow-up services. If individual TAs, departments, or workshop staff initiate it, staff members from the Center for Research on Learning and Teaching will observe (and often videotape) classes and provide consultation. Methods of mid-term assessment also are offered, including the use of the Small Group Instructional Diagnosis (SGID) and an early feedback form.

Recent research efforts, conducted jointly with Sarah Briggs of the ELI, analyzed how undergraduates perceive the effectiveness of ITAs and other TAs. A comparison of first- and second-term student ratings indicates that before the comprehensive screening and training program was developed, the undergraduates perceived a gap between the teaching effectiveness of ITAs and that of other TAs; not only was the gap significant during the first term of teaching, but it increased during the second term. Recent data shows a narrower gap during the first term, and ratings collected second term show that ITAs improved more than other TAs did, nearly closing the gap.

Funding for the program has been shared by the Office of the Vice President for Academic Affairs; the Office of the Dean of the College of Literature, Science, and the Arts; and the Center for Research on Learning and Teaching and the English Language Institute. Some seventy to seventy-five graduate students each year enroll in one of the two workshops.

One of the strengths of the program is the collaboration between the two units; staff

and faculty from both the Center for Research on Learning and Teaching and the English Language Institute work together closely on program design, teaching, and evaluation; conduct research; and make joint policy recommendations to the university. ITA services are based on principles of intercultural sensitivity and respect and on a learner-centered pedagogy that assumes that staff members, like participants, are continuing to learn. Current proposals include the development of similar services for foreign faculty and addressing prejudice among undergraduates toward ITAs.

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## University of Minnesota

The university has long had a program for international TAs — the TA English Program — which includes training in both language and pedagogy for TAs. But in 1989, with a two-year grant and matching funds of its own and from the legislature, the University of Minnesota created a centrally administered effort in TA development. The pilot program is housed in the Office of the Senior Vice President for Academic Affairs and Provost.

The 3,000 TAs employed each year lead labs or recitations, grade papers, hold office hours, or in some cases take full responsibility for undergraduate courses. Many departments have wonderful training and support systems for their TAs; many do not. Making sure that all TAs receive the training and support they need to become effective instructors is the mission of the TA Development Program.

The components of the TA Development Program are:

(1) Small grants, totaling $47,900 to twenty-three academic departments, awarded competitively for activities that encourage better TA instruction. Some of these funded activities include the development of credit course offerings in teacher training, TA handbooks, orientation workshops on instructional skills, and a departmental consultation service for teaching assistants.

(2) Workshops to improve TAs' instructional skills, addressing topics such as organizing a class session, leading a discussion, running a lab, one-on-one advising of undergraduates, using cooperative learning groups, dealing with diversity and learning styles in the classroom, creating effective tests, and writing across the curriculum. The workshops — offered the week before fall classes begin and then throughout the year — are led by university staff, professors, and experienced TAs. Every quarter, TAs also can talk informally about teaching with Morse Award-winning faculty while sharing pizza.

(3) Educational specialists available to observe TAs in their undergraduate classrooms and to provide constructive feedback and assistance. The consultants also assist departments in planning their department-specific training; at the request of the department, they also will work with

groups of TAs in a large-group instruction format.

(4) A special reserve collection of resource materials on teaching housed in the university library, including books, articles, handbooks, manuals, videotapes, and audiotapes.

(5) An inventory of all activities designed to improve TAs' teaching skills. Departments can review the inventory to learn new ways to support their own teaching assistants.

(6) Customized workshops for departments on active learning strategies, writing across the curriculum, leading a discussion, designing tests, learning styles, diversity issues, and technology in the classroom. A facilitator works with a TA or faculty member from the department to design a workshop using examples from that department's subject matter.

(7) A May 1991 mini-conference for TA supervisors to disseminate information about the university's various TA-development activities. Sessions covered topics such as preparing TAs for the classroom, supervising TAs, employment policies and procedures, strategies for working with international TAs, and an undergraduate perspective on TA development. Mini-grant holders in TA development had table displays, and time was devoted to visiting tables and discussing activities one-to-one.

(8) A full-day orientation for new TAs offered before fall quarter. The orientation includes keynote speakers, an introduction to the university's policies on sexual harassment and academic misconduct, information about teaching resources on campus, tasks involving a number of pedagogical strategies, and lunch. TAs choose additional sessions on topics such as lecture presentation skills, interaction strategies, classroom management, teaching and learning styles, leading office hours, and teaching for the first time.

The TA-development staff (excluding the program for international TAs) includes one professional educator, one graduate assistant, and a part-time secretary. A TA-development committee also includes the associate vice president for academic affairs, the coordinator and assistant coordinator of the TA English Program, the coordinator of the Graduate Assistant Office, and an evaluator from Academic Affairs; it meets twice a month to plan TA-development activities. An advisory committee of faculty, students, and administrators from across campus meets quarterly with the Office of Academic Affairs.

In just a year, the response to TA-development activities has increased tremendously, indicating that the need and desire for TA development certainly exists. In a time of budgetary shortfalls, the program still hopes to continue to expand in the coming years.

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## University of Southern California

Following the recommendation of his two-year faculty Commission on Undergraduate Education, USC President Zumberge formally established the Center for Excellence in Teaching in October

1990. The center is housed within the Graduate School because its initial emphasis is on TA training; however, the center has expanded its activities and will eventually affiliate with USC's new teaching library.

Guided by an advisory board of faculty and students from across the university, the center's primary mission is to enhance undergraduate teaching and learning in a way that builds a sense of ownership in the campus community.

The center administers a four-week summer workshop for international TAs and runs a one-week fall program and a two-day spring orientation for new TAs. It has started a TA newsletter, a recognition program for outstanding TAs, and a series of TA workshops. The center also administers a TA Residential College.

To encourage teaching excellence within individual departments, the center developed a Faculty Teaching Fellows Program to support faculty working to enhance undergraduate education in their department and discipline. Its ongoing Fund for Projects in Innovative Teaching supports creative faculty teaching projects. The center organized a faculty task force to identify and solve pedagogical problems in large general-education classes and publish a booklet to disseminate its recommendations. The center also works with the Faculty Senate and Provost's Office to develop a faculty consensus on student teaching evaluations and other means of evaluating teaching. Recently, the center assumed responsibility for revising and administering the university's standard student evaluation process. In addition, the center piloted a teaching project for young faculty in one department and is now conducting several other department-based projects (e.g., writing across the curriculum).

The center also works with administrators to enhance the undergraduate educational environment — often informally, by identifying and coordinating efforts with interested deans and department chairs and by publishing a guidebook for deans and chairs on practical ways to enhance the teaching environment in their unit. This guidebook is a condensation of a voluminous teaching literature adapted to USC's campus.

The formal staff consists of the associate dean of graduate studies, with input and direction from the advisory board. Staff and budget for new activities come from existing Graduate School resources. If the center proves its worth, the administration is expected to add a full-time director, a modest staff, and a small budget. In summer 1991, the Faculty Senate supported a resolution encouraging USC's new president to support and enhance the center's funding.

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## University of Texas at Austin

Responsibility for training the 2,700+ teaching assistants and assistant instructors (a title carrying more independent responsibility) is divided between academic departments and UT's Center for Teaching Effectiveness. Primary responsibility lies in the departments, supported by the center

and other campus resources. The relationship is the subject of a center grant from FIPSE.

Each department offers its graduate students a semester-long course in college teaching. The Office of Graduate Studies requires these courses of all assistant instructors, and some departments require them of teaching assistants. The courses are taught by members of the department, most with help in course design from the center. Their content varies tremendously from department to department, sometimes focused on the immediate needs of the TAs, sometimes taking a broader view of teaching as a preparation for future careers. Center staff are frequent guest teachers.

The center also offers centralized services that supplement the departmental courses. Any interested teaching assistant or assistant instructor can receive individual consulting and videotaping at the request of the graduate student or the supervising professor. The center also offers graduate students a monthly series of university-wide workshops on teaching. Finally, the center prepares a quarterly TA newsletter; departments receive a master copy, which they may reproduce and distribute.

With the support of the FIPSE grant, the center is experimenting with ways to better coordinate between the departmental courses and the center's support. One aspect of this program is a summer seminar for faculty who teach the course for teaching assistants. In five half-days, the workshop introduces these faculty to alternative ways of teaching the class. An accompanying workshop includes models of course design, suggested readings, and activities and handouts on critical teaching topics from which an instructor can pick and choose. Additional support materials, such as model teaching tapes, are planned.

The center's most direct intervention is the screening and preparation of international TAs. These students must pass an English proficiency oral assessment administered by the Texas Intensive English Program and must attend the center's three-day orientation on teaching to be certified as a TA with student contact.

The Learning Skills Center (a support office for students) provides training and additional compensation for TAs who have been assigned to certain large, required, "high-impact" courses in which at-risk students might need additional help. These TAs are trained in the techniques of supplemental instruction, a method that incorporates instruction in learning skills into the fabric of the regular classwork, so that students learn *how* to learn as they learn their course content.

TA training needs the very visible support of the departments if it is to retain credibility with graduate students. Yet, training left solely to the departments tends to concentrate too much on the content of the discipline and not enough on pedagogical issues. Different mixes are appropriate for different departments. The center staff feels a responsibility to monitor the quality of training received by the graduate students, but at the same time it must respect the autonomy of the departments. To find the right balance is a never-ending quest.

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# University of Washington

Training for the university's nearly 1,200 TAs aims to ensure that TAs are sufficiently prepared for their instructional interactions with UW undergraduates and for their future role as professors. The training activities include:

(1) a spring planning meeting hosted by the Center for Instructional Development and Research (CIDR) for faculty TA coordinators and TA representatives from each department that employs TAs, with the goal of developing a community of scholars interested in TA training;

(2) a campus-wide orientation, organized by the Graduate School and CIDR for the 500 new TAs each fall;

(3) departmental orientations, lasting from one day to two weeks, with ongoing observation, supervision, and professional seminars throughout the academic year;

(4) a year-long, required training program for international teaching assistants (ITAs), developed by CIDR (including a pre-autumn workshop and ongoing consultations throughout the year);

(5) an intensive language course, offered by English as a Second Language (ESL) Programs, to enhance the oral communication and presentation skills of international TAs;

(6) appointment of lecturers and ten-month predoctoral staff assistants, funded by the provost through the College of Arts and Sciences, to focus on the training of TAs in large entry-level courses; and

(7) year-round individual consultation services by CIDR staff for teaching assistants.

Although CIDR is funded centrally through the Provost's Office, it serves as a major catalyst for the numerous TA-training activities across campus.

To provide ongoing TA-training services for departmental trainers and individual TAs, CIDR has developed a consultation approach that reflects the culture of a large research institution. Based on the research model, the approach is used to assess needs, gather and analyze information, and incorporate the results in instructional assistance. Throughout the summer and the academic year, CIDR consultants assist departmental coordinators and representatives to design and implement their TA-training programs. The model is also the basis for confidential consultations with individual TAs who wish to improve their teaching.

Using a service firm approach, CIDR provides TA-training assistance that meets the specific needs of clients, provides quality face-to-face encounters between clients and consultants, retains high visibility on campus, and systematically monitors client satisfaction. CIDR consultants seek written feedback on workshops and send feedback forms to individual clients after each service.

The CIDR training staff consists of four consultants and a coordinator, who offer departmental representatives and individual TAs general consultation, and a variety of specialists.

A CIDR writing consultant works with departments to develop departmental workshops on the use of writing as a learning tool and with TAs who incorporate student writing into their courses. An instructional computing specialist supports instructional uses of computers in teaching. Two ITA instructional-development specialists and two half-time language specialists support CIDR's International Teaching Assistant Program. The program, as it is now mandated by the Graduate School, serves more than seventy new ITAs through an intensive, pre-autumn workshop focused on language, cultural, and instructional issues, and with observations, mid-term feedback, consultations, and language tutorials throughout the year. Finally, three CIDR instructional-development specialists — one in social sciences/humanities, one in languages, and one in mathematics/sciences — work with the College of Arts and Sciences to facilitate cross-discipline meetings and to provide training in active learning strategies for TAs and course supervisors who teach large-enrollment entry-level courses.

In response to departmental needs, CIDR developed a variety of TA-training resources. These include books *(Preparing the Professoriate of Tomorrow to Teach* and *Teaching Assistant Training in the 1990s),* articles, and pamphlets for TAs and TA trainers. *Mentor,* the handbook for new TAs, produced by the Graduate School and CIDR, is distributed to all new TAs at the half-day, university-wide TA orientation. The videotape "Role of the Graduate TA" reflects the variety of TA roles at UW; it's shown to all new TAs at the half-day orientation and is available for more extensive training in individual departments. Videotapes from the second National TA Training Conference, hosted by CIDR in 1989, also are used by departmental TA-training programs. Members of the CIDR staff, with Instructional Media Services, are developing a videotape to assist TAs with issues of student diversity. Finally, instructional-computing specialists working with TAs in Romance Languages have developed software on which undergraduate students can complete their homework and get immediate feedback, decreasing the time TAs spend correcting assignments.

UW departments increasingly have incorporated ongoing TA training into their programs. Again, CIDR staff support the training, with individual consultation for course supervisors or TAs, assistance with structured seminars on the teaching of a specific discipline, workshop design and presentation, classroom observations, videotape critiques, and/or mid-term student evaluations. In CIDR's specially equipped video classroom, instructors or TAs can videotape their classes for analysis, develop or edit instructional videotapes, or observe other TAs or instructors through a one-way glass. In the future, CIDR will assist supervisors to understand the developmental stages TAs pass through and provide training at appropriate intervals.

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## University of Wyoming *(international TA program)*

The program for training international teaching assistants has been in place since 1982 and mandatory since 1985 for all new international graduate assistants (GAs), regardless of their assignment to teaching or research. Beginning in 1991, departments may request a waiver for research-only GAs. The goal of the program is to prepare international students to be successful in teaching situations (e.g., returning graded papers, holding review/problem sessions, supervising labs, presenting in the classroom). The program also provides TAs with an orientation to university life, at Wyoming in particular and in the American system of education in general.

All international students awarded an assistantship must attend a three-week workshop held just prior to the fall semester. Students are screened using a battery of tests, including a videotaped microteaching presentation, and are placed into one of three groups:

(1) exempt from further participation in the program;

(2) admitted to English 5910 (Classroom Communication Skills); or

(3) placed in the more basic English 0210 (Oral Skills).

Both classes meet daily for the three-week session. Students participate in class sessions, small-group work, or labs for four to six hours each day, depending on their individual plan. Morning sessions usually involve large-group seminars; afternoon sessions are organized for small groups and individual tutorials. Attendance varies from thirty to fifty students each year.

At the end of the session, students in English 5910 are screened again using the identical battery of tests. Those who achieve adequate scores on all test sections are certified to teach beginning in the fall semester. Each certified student's department receives a recommendation as to which type of teaching the student's skills seem best suited. (Departments use these recommendations as they see fit.) All students who are assigned teaching duties are visited in their teaching environment by faculty from the summer program.

A student who is not certified may not teach. These students are tested again at the end of the fall semester and might be certified at that time. Students in English 0210 must pass that course or achieve adequate scores on the testing battery before being admitted to English 5910.

When an international student is awarded an assistantship, the department is obliged to continue that award for the initial appointment period (e.g., one semester, one academic year), regardless of where the student places in the program. In 1985, however, the Graduate School mandated that students must successfully complete English 5910 by the end of their first year of study for their assistantship to continue. The requirement may be waived for research-only assistants at the written request of the department to the Graduate School.

Program evaluation includes feedback from the international TAs, the faculty in their departments, and the students whom the international TAs teach. Adjustments in the program have been made as a result of those responses; for example, a segment on holding office hours has been added and more emphasis placed on supervising labs.

The program is based in crosscultural communication theory and includes components on comparative education and public presentation skills. Language elements include work on

key vocabulary, nonverbal communication, and other English skills as determined by the individual TA's performance in a series of videotaped teaching simulations.

A centralized program for all TAs is planned; it would include some of the elements of the program now required only of international TAs. Undergraduates already receive materials about working with TAs, including information about interacting with international TAs.

Funding for the program comes primarily from the Graduate School, with some instructional and clerical support from the Department of English.

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## Washington State University

The centralized TA-training program is administered through the Graduate School, with oversight provided by a TA-training subcommittee of the University Graduate Studies Committee (GSC). In addition, the university's international TAs are served by the Intensive American Language Center, which provides language screening and limited instruction.

The TA Training Committee consists of one member of the GSC, who serves as chair; three at-large faculty members with staggered three-year terms; a faculty representative from the university's Intensive American Language Center, located in the International Education Office; four senior teaching assistants appointed by the Graduate and Professional Student Association (GPSA); and the assistant dean of the Graduate School, who serves as an ex-officio member.

The functions of the TA Training Committee are to:

(1) establish policies and procedures for activities for training graduate teaching assistants;
(2) review and recommend the course content and instructors for a yearly, semester-long, centralized course for TAs;
(3) develop supporting materials for individual graduate departments and programs; and
(4) assess and evaluate activities.

Washington State's 700 graduate TAs are spread across seventy-two graduate units. Many graduate programs are quite small, and many are interdisciplinary. As a result, the nature and scope of departmental training efforts vary considerably. The goal of the TA-training program is to provide general training in college teaching for incoming and continuing TAs. The core course, Preparation for College Teaching (UNIV 590), is designed both to stand on its own and to supplement departmental efforts.

A semester-long course, UNIV 590 begins with an orientation to the role of the graduate teaching assistant, followed by thirteen lecture/discussion sessions on pedagogy and policies/procedures taught by faculty and graduate students. Among the topics are:

(1) dealing with problem situations and students (conducted by the university ombudsman);
(2) the culture of the WSU classroom (taught by an anthropologist);

(3) teaching techniques for laboratories and discussion sessions;
(4) implementing writing across the curriculum (taught by the director of the university's Writing Across the Curriculum Program);
(5) motivating students to learn;
(6) policies and procedures relating to racial and sexual harassment (overseen by the university's Center for Human Rights (Affirmative Action));
(7) problem solving in lecture format;
(8) collaborative teaching and learning (taught by graduate teaching assistants who focus on how collaboration can ease a TA's load);
(9) classroom audiovisual techniques;
(10) use of the library and computing services;
(11) developing and evaluating tests; and
(12) time and stress management (both for the TA and for recognizing stress symptoms in undergraduate students).

In the final session, students evaluate the course and its individual sessions. Feedback from these written evaluations and their discussion is used for planning.

The GPSA, in conjunction with the Graduate School, publishes an updated version of the university's *Handbook for Teaching Assistants* for distribution to TAs through departments and use in the course for graduate TAs. The GPSA, with financial support from the Graduate School and the alumni association, also provides ten TA Excellence Awards annually (five for teaching and five for support in teaching).

The TA-training program began largely as a GPSA-sponsored workshop, then a series of workshops, to increase TAs' instructional skills and their understanding of university policies and procedures. After two years, it became clear that a permanent course was necessary and that TA training had to become institutionalized. At that time, the Faculty Senate approved UNIV 590 and the TA Training Committee, and the Graduate School received administrative responsibility for both the course and the program.

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CHAPTER III

# Discipline-Based TA Programs and Practices

## Programs of Note in the Biological Sciences

edited by Clyde F. Herreid
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As in all sciences, biology teaching assistants are used almost exclusively as laboratory instructors; some departments (20 percent in our sample) use TAs as leaders of recitation meetings, as well. In both roles, TAs are apt to be part of a team, subject to the whims, policies, and guidelines of a faculty instructor who lectures in a large class. Lab instruction is an adjunct to the course, under supervision of the faculty or staff laboratory coordinator. Although serious efforts can be made to prepare and supervise the labs, in universities with many assistants, the TAs largely fend for themselves. They design quizzes, give mini-lectures, run discussions, grade exams, counsel students, and handle discipline. In short, they have most of the responsibilities of a faculty person. Yet, they are bound by course structures to which they might object, which can cause tension among TAs, staff, and faculty. On the other hand, the potential for a united team effort with an extensive support network is great. Many of the departments that responded to the survey clearly have made an effort to capitalize on the opportunities for cooperation where all TAs are attempting to run the same lab exercises.

The principal problems facing the department or individual running a large program are how to ensure that roughly the same things are taught in each lab or recitation section, that similar grading standards are maintained, that each TA feels his or her individual contributions are recognized by the instructor, and that the undergraduate students feel the institution is concerned for their education in spite of their being immersed in a megacourse in a megauniversity.

Large programs have the greatest chance for success when TAs are offered the most supervision and support and the faculty in charge of the course actually show they care and are enthusiastic about teaching. More than 30 percent of the schools in our survey require TAs to attend an all-university TA-training program before walking into the classroom. Fifty (50) percent require attendance at a departmental TA orientation program. Eight departments (30 percent) require both experiences. Once the TAs are teaching, about 50 percent of the schools hold weekly lab preparatory sessions run by faculty. These prep sessions serve as ongoing seminars on how to teach, as evaluative sessions for the just-completed lab exercise, as practice sessions for the forthcoming laboratories and recitations, and as reality checks for the TAs as they compare standards of evaluation. Weekly prep sessions are the single most important experience for TA training and act to develop group cohesion and boost morale. Successful supervisors of TAs have mastered

the art of running these sessions.

Each of the five departmental programs described here offers special virtues. Syracuse's is a comprehensive program with many elements of a superb training experience; it deals with recitations, autotutorials, and even publishes a TA newsletter. Clemson University's biology program is huge; it has a week-long training session held in the College of Sciences, faculty visits to labs, and faculty review of quiz grading. At Cornell University, extensive microteaching experiences and videotaping sessions occur before and *during* the semester; in addition, a mentoring process pairs inexperienced and experienced TAs, and all TAs participate in workshops on special topics during the year. Illinois takes an approach to TA education whose philosophy receives too little explicit emphasis in the sciences; it focuses on the learner rather than the teacher. Boston's program highlights six distinct training activities, including sessions on animal care and lab safety, topics often neglected.

Not all innovations could be illustrated by only five abstracts. Among the novel programs in evidence elsewhere is the University of North Carolina Department of Biology's, where a master TA mentors less-experienced TAs. The master TA is relieved of direct teaching duties but shares information on course content and instruction with other TAs during the week's labs. The University of Rhode Island provides a TA certificate for TAs who complete its thirty-hour departmental training program. Eastern Washington University's biology department uses undergraduate biology education majors as TAs; as part of a three-credit intern program, they teach one laboratory section of a nonmajors biology course under the supervision of a coordinating supervisor. After the internship, the student is eligible to be hired to teach additional labs. A few other schools use undergraduate TAs along with graduate students. The University of North Carolina uses them as undergraduate helpers who receive one hour of credit. SUNY Buffalo's Evolutionary Biology course pairs undergraduate honors TAs with graduate TAs to get two TAs per lab section. As the pair teaches two sections per week, the TAs swap roles as leader and assistant. Each TA organizes and leads one lab preparation session each semester, and the graduate TAs give one major lecture to the hundreds of students in the course. Organization and practice sessions are critiqued by a faculty member.

—CFH

## Boston University

The goals of the biology department's teaching fellow (TF) training program are to develop instructional skills among biology Ph.D candidates, to serve undergraduate laboratories and discussion sections, and to prepare these graduate students for future faculty positions. TFs are expected to teach undergraduates scientific knowledge and methodology and to serve as positive scientific role models.

Sixty-five (65) percent of biology TFs teach two to three 3-hour laboratories per week; 15 percent serve as discussion section leaders in multisection courses; 20 percent serve as TF course coordinators. The department tries to limit a TF's teaching to one course per semester. In addition to ten hours/week contact time in the laboratory or classroom and in office hours,

a TF's duties include compiling all laboratory grades, correcting all laboratory reports, compiling and correcting quizzes, and proctoring large group lecture exams. TFs report spending an average of twenty hours per week on their teaching.

Six separate departmental training activities, taught by faculty or university staff, are mandated for students holding teaching fellowships:

(1) Weekly preparatory sessions, where administrative details are coordinated. All laboratory work is demonstrated by a senior TF with proven teaching skills, and TFs practice hands-on protocols with this TF coordinator.

(2) Orientation meetings once per semester. A twenty-page *Guide for TFs* booklet outlining departmental responsibilities, university rules, expectations, and emergency procedures is distributed and discussed.

(3) Videotaping of a live lab performance during the first semester of their fellowship. This required activity is coordinated with the graduate school of the college. Students view tapes with School of Education evaluators and assess their performance.

(4) A live-animal care facility training session, required of all TFs and university researchers before they work with vertebrates in the classroom or laboratory. The session covers proper handling and care.

(5) A graduate seminar, Primer for a College Education, that meets once a week for one semester. The required seminar is a "how to" course that covers teaching styles, presenting conference papers, writing grants, working as a team, and ethical behavior in science research and teaching. A private foundation has donated money for course supplies.

(6) A university-sponsored, one-time laboratory safety meeting, required during the first year of teaching. The meeting addresses the safe use of chemicals and radioactive materials, emergency procedures, and health reports.

The training emphasizes the needs of TFs who teach the large first-year undergraduate courses. A faculty member visits the laboratories of first-time TFs on three occasions during the semester and meets with that TF following the observation to assess the TF's teaching skills. All quizzes written by TFs are proofed by a faculty member before being administered; this test development is a major part of the TF training. In a coordinated effort with the English department, international students receive additional instruction in English; international teaching fellows must pass an English competency test to continue teaching to first-year undergraduates.

Finally, to demonstrate the importance the College of Liberal Arts places on excellent teaching, the dean gives an award to the outstanding TF from each department each year.

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# Clemson University

The Biology Program is responsible for teaching a large general biology course (approximately 1,500 students each semester) and a smaller majors course (175 students). The laboratories are taught by teaching assistants. As many as forty TAs teach each semester, including as many as twenty who have not taught before.

The College of Sciences holds a week-long August TA-training session for new graduate students before classes begin. The Biology Program uses activities to reinforce and extend that training with practical applications in specific courses. The goal is to provide uniformly high quality instruction in each of the seventy or more laboratory sections.

General biology TAs meet weekly with the two faculty members involved in the laboratories to prepare for the upcoming lab. Although the major purpose of the session is to review the laboratory content, a discussion of teaching tips appropriate for that week's lab is also included, for example, different ways to encourage student participation in the end-of-lab summary.

During the second week of labs, new TAs are observed teaching by a faculty member, who later discusses his or her observations with the TA. Follow-up lab visits depend on the TA's performance. Some TAs require only a mid-semester checkup; others are monitored more closely and might even be required to attend the lab of an experienced instructor each week before teaching their own labs. Individual TAs also discuss questions and problems with veteran TAs as well as course faculty.

The presemester training session includes videotaped microteaching, with follow-up provided several weeks into the semester. Each TA is assigned part of the introduction or lab summary to present during the prep session. Experienced as well as new TAs observe. After each videotape is reviewed, the presenter first evaluates his or her own performance, and then the observers comment. The presenter is usually quite self-critical, while the observers compliment, reassure, and offer helpful suggestions. TAs also receive student feedback on mid-semester and end-of-semester evaluations. A role-playing exercise during another prep session helps TAs learn to encourage active student participation and involvement in the lab.

In addition to presenting material and helping students with lab procedures, TAs grade the weekly lab quizzes, which consist of short-answer questions from a computerized test bank that also provides an answer key. Before the first quiz, faculty prepare the TAs for grading by using a sample graded quiz to discuss grading procedures, including judging the correctness of students' answers, awarding partial credit, and giving the students feedback on their answers. Course faculty review each TA's first set of graded quizzes and meet with the TAs to discuss their comments. As with the lab visits, some TAs require a great deal more follow-up than others.

The Biology Program intends to continue the same types of TA-training activities in the future and to seek additional means of improving instruction in introductory laboratories. For example, the biology department has collaborated with the college-wide TA-training program

to produce a series of videotapes that illustrate teaching situations. Some of the tapes are used for the presemester training, others during prep sessions later in the semester.

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## Cornell University

The graduate student teacher training program associated with the introductory biology course maximizes the teaching effectiveness of the twenty-two graduate student teaching assistants associated with the course. The TAs' major responsibility is to instruct students in the laboratories; each TA teaches two 3-hour lab sections per week. The program has two components: three- to four-hour weekly preparatory meetings held throughout the year to help TAs become informed and enthusiastic about each lab, and a teaching-enhancement program featuring review of videotaped in-lab teaching episodes. The program is administered by two doctorate-level senior lecturers who are the laboratory coordinator and assistant laboratory coordinator of the course, with assistance from one senior TA. All three individuals have had some formal training in the use of videotape recall methods.

During the week prior to the start of classes, the department conducts three to four microteaching sessions that involve both TAs new to the course and returning TAs. In a microteaching session, four to five TAs take turns teaching a five- to ten-minute lesson that they have developed on some biological topic. Other TAs play the part of students. During the ensuing fifteen-minute recall session, the videotape is paused whenever either the "teacher" or a "student" recalls something he or she wishes to share. The recall administrator manipulates the equipment, facilitates interaction between teacher and students, and keeps the session focused on the events on tape. These microteaching sessions acquaint the TAs with the video-recall process, display a variety of teaching styles, and provide them feedback on their teaching before they face real students.

Twice during the fall semester, on a prearranged day and time, each TA new to the program (about 50 percent of the TAs, on average) is videotaped in the lab while teaching. A one-hour recall session is arranged shortly after the laboratory, in which one of the program administrators, the TA, and several undergraduate student volunteers who attended the class participate. The format of the recall is the same as the microteaching session. The administrator tries to help the TA identify regularities in his or her teaching behavior and formulate some teaching principles. Usually, the administrator and TA meet for an additional fifteen minutes after the students have gone. Every attempt is made to schedule the first recall early in the semester and the second recall toward the end. TAs are encouraged to identify areas where they think improvement is warranted and to develop some strategies that they can try out by the second recall. Recall sessions are available for all TAs during spring semester by prescription or request.

A mentoring system also is in place that teams each new TA with one of the program administrators, usually the one who conducts the recall sessions. The two meet regularly throughout the semester to problem solve; review the TA's mid-semester and end-of-semester student evaluations; and go over the quizzes, handouts, and other materials the TA prepares.

During each weekly prep meeting, TAs perform the activities associated with the upcoming laboratory. Discussion focuses on strategies for teaching the important concepts and principles students will need to understand the laboratory work and typical procedural problems encountered. Experienced and inexperienced TAs are paired in group activities. Written prep materials and selected references are distributed to TAs a week before each meeting. Also, several workshops at appropriate times during the year cover topics such as grading written work, tutoring, and developing questioning skills.

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## Syracuse University

New-TA training in the biology department focuses on TAs assigned to the introductory biology course sequence. The course enrolls approximately 1,000 students per semester and involves a weekly lecture by the course professor, a weekly recitation class taught by a TA, and individualized study in an audiotutorial lab setting. Each TA's responsibilities include teaching two recitation classes per week, supervising students in the lab four hours per week, proctoring three major exams, and assisting the course administrators. TAs are supervised by the course professor, the course coordinator and the lab director.

Components of the program include the following:

(1) Mandatory participation in the all-university TA-training program.

(2) A two-and-a-half-day orientation to teaching the introductory course. TAs receive extensive information about the course prior to their arrival on campus. Its philosophy, goals, grading, course policies, exams, and teaching strategies are discussed. Experienced TAs contribute their perspectives. New TAs prepare lesson plans for the first few lessons so they can get off to a good start.

(3) Weekly meetings for the first half of the semester to discuss course content and classroom problems and issues. As the TAs become more experienced, meetings are held less frequently.

(4) Teaching notes, issued regularly throughout the course to all TAs (experienced and new). Also, *Bionews,* a weekly newsletter distributed to students and TAs.

(5) Resource notebooks available for TAs to refer to. Each TA contributes quizzes, handouts, and study notes to this resource manual each semester.

(6) Peer videotaping of each TA once per semester. Each TA observer writes a one-page critique of the class he or she taped and discusses the critique with the TA observed. The videotape

can become part of the TA's teaching portfolio.

(7) Observations of new TAs by external observers at least once during the semester. These observers include students from a graduate teaching methods course, the course administrator, the lab director, and the course professor. A one-page critique is written and discussed with the TA observed. Student evaluations are collected for each TA at the end of each semester; the main points are summarized in a teaching profile given to the TA. Each TA also is required to obtain formative evaluation data from students after a few weeks of classes. This data is to be used for self-assessment; a check is made to ensure that the evaluation is done, but TAs are not required to hand it in.

(8) An evaluation of the quality of each TA's teaching by the course professor, course administrator, and lab director, with a brief report provided to the Graduate Education Committee in the biology department. The summary evaluation is used to determine a TA's reappointment.

(9) A course entitled The Teaching of College Science. This optional course provides formal content and experiences concerning college science teaching.

(10) Special sessions to enhance the TA's content and/or teaching skills. Subjects might include electron microscopy, electrophoresis techniques, or preparation of slides and overhead transparencies.

Training materials available for TAs include *P-P-P-E-P: The Art of Teaching* (videotape and written guide); *Helpful Hints* (syllabi, policies, assignments); *No-No's of Teaching* (videotape); *How to Get Off to a Good Start* (booklet); resource notebooks; and journal articles.

As part of a new university-wide initiative to prepare graduate students for teaching careers, the biology department offers a new graduate student appointment: the teaching associateship. The appointment is an *option,* not a requirement for all TAs. Teaching associates are supervised and evaluated by a faculty teaching mentor, in most instances a professor whose expertise and subject-matter interests match those of the teaching associate. Teaching associate status is awarded to those Ph.D. students who have demonstrated exceptional skills in teaching and research. In most cases, they are selected from among the teaching assistants who have demonstrated competency as recitation instructors.

A key component of the teaching associate requirements is a significant, mentored, independent teaching experience. The experience involves developing and either teaching a one-credit biology course under the guidance of a faculty teaching mentor or teaching a portion of an undergraduate biology course. Such teaching provides supplementary classes on topics not covered in the regular course or greatly enhances an already existing undergraduate course. The teaching is evaluated, and the teaching associate compiles a portfolio.

The teaching associate also serves as a mentor for new teaching assistants, observing and critiquing their teaching, designing appropriate evaluation procedures, and helping them develop teaching portfolios. The teaching associate also assists in planning seminars for TAs; developing lab activities, curriculum materials, and TA-training materials; and generally helping faculty members improve the introductory biology courses.

A Teaching Mentors Committee is composed of experienced faculty members who represent

major areas of emphasis in the biology department. These mentors oversee the program, recommend appointment of the teaching associates, review and evaluate their portfolios, and judge their qualifications for a Certificate in University Teaching.

Appointment as a teaching associate involves:

(1) Appointment as a teaching assistant and at least one semester of teaching experience in the introductory biology course or the equivalent. (In exceptional cases, a student may be directly appointed as a teaching associate based on previous experience or background.)
(2) Satisfactory completion of the mandatory all-university new-TA orientation.
(3) Satisfactory completion of the two-and-a-half-day biology department TA orientation program.
(4) Satisfactory completion of the TA-training program for the introductory biology course.
(5) Satisfactory academic status as a graduate student.
(6) Recommendation by a faculty member to the Teaching Mentors Committee; review of credentials and approval by the committee and approval of the Graduate Education Committee and the department chairperson.

Teaching associates may elect to meet requirements for the Certificate in University Teaching, awarded jointly by the biology department and the Graduate School. The certificate is awarded based on review of the TA's portfolio and satisfactory completion of the course The Teaching of College Science.

In the very competitive market for faculty positions, a training program of this kind can be a strong plus for a job applicant, even at major research universities. The program aims to produce faculty members who have demonstrated proficiency as teachers as well as researchers; it is hoped that such faculty will help set the trend for the future of the professoriate.

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## University of Illinois at Urbana-Champaign

The Department of Plant Biology teaching assistant education program has two major goals: to ensure that undergraduate students receive a quality educational experience in courses taught by the department's teaching assistants; and to help graduate students develop the knowledge and skills necessary to become successful educators.

The TAs' introduction to teaching occurs at the all-campus teaching assistant orientation offered to all departments by the Office of Instructional Resources (OIR). All teaching assistants attend OIR's orientation, a general program lasting two and a half days that introduces the new educators to student demographics, cultural diversity, policies on academic integrity, and learning styles. General educational skills are discussed in small-group sessions, and TAs participate in a microteaching session that is recorded on videotape and critiqued by an OIR consultant.

TAs gain their practical experience in the department. Teaching assistant education in

the department generally begins with its two introductory-level plant biology courses. Most new teaching assistants are assigned to these courses for one or two semesters before being placed in upper-level courses. The academic professional staff of the introductory courses is charged with the professional development of the teaching assistants.

The Department of Plant Biology has had a long relationship with the Office of Instructional Resources. Several of OIR's small-group sessions were originally designed and presented by Plant Biology staff members. For the fall 1991 all-campus orientation, Plant Biology and several other departments of the School of Life Sciences collaborated in developing small-group sessions dealing with subjects common to introductory courses. The subjects included biology laboratory classroom management, development and use of learner objectives, lesson plan organization, laboratory teaching, discussion organization and questioning techniques, and bioethical decision making. These sessions were coordinated with the general presentations offered by OIR at the all-campus orientation.

The philosophy and structure underlying the introductory plant biology courses are the foundation for the continuing development of graduate students as teaching professionals. Teachers learn their craft primarily by example; therefore, the department's goal is to provide courses that are on the cutting edge in both subject matter and educational innovation.

The introductory plant biology courses are designed around simple but often overlooked principles. The first is that knowledge is constructed in the mind of each learner. This means that the role of learner must be an active one and the role of teacher one of facilitator rather than ultimate source of knowledge. The student-instructor relationship is cooperative rather than adversarial. At Illinois, discussion and lab activities encourage students to take an active role in the learning process. Students collaborate in group work to develop critical thinking and communication skills while they are learning plant biology.

The second principle is that different students learn in different ways. Instruction is varied so no one learning style is favored. The combination of lecture, lab, and discussion provides three distinct learning formats. Laboratory and discussion activities include several different instructional strategies and methods of evaluation. Teaching assistants experience a variety of instructional methods and develop skills that will be useful in different educational settings.

The third is that most students admitted to the University of Illinois can learn biology, if they are provided with learning opportunities that are enjoyable, are meaningful, and offer a fair probability of success. Students enjoy learning through group cooperation and the chance to communicate with the rest of the class. A student's chances for success are enhanced when the objectives are clearly stated and challenge students to fully exercise their intellectual abilities; for this reason, lecture, lab, and discussion sections are based on written objectives that reflect all six levels of Bloom's taxonomy of the cognitive domain, and the quizzes and homework assignments TAs generate, as well as the lecture exams, are based directly on written learner objectives. These objectives define what students are expected to know and what they are expected to be able to do with that knowledge; the objectives give TAs a framework on which to build their weekly lesson plans, while allowing them some degree of freedom to experiment with their

specific approach to the lesson.

Finally, the training is based on a commitment to the idea that the *process* of learning is as important as the subject matter. Being active in learning requires the development of an understanding of the learning process. Students and teaching assistants are asked to use thinking tools such as visual diagrams, verbal description, and concept mapping to communicate and evaluate understanding.

Teaching assistants are introduced to the instructional techniques they will use in lab and discussion sections during weekly staff meetings led by the academic professional staff. Two or three discussion activities and lab management techniques are presented, which TAs may choose. Other suggestions are solicited, and TAs have a chance to share their experiences from the previous week's classes and seek advice. Teaching assistants are observed in the classroom by academic professional staff and given suggestions for improving their communication skills or dealing with specific student problems. Generally, the academic professional staff also teaches discussion and/or lab sections, leading to a better understanding of the abilities and concerns of the students and a greater credibility with the TAs.

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## Programs of Note in Chemistry

edited by Richard Quest
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The size of the instructional program, the number of graduate students serviced by the institution, and faculty numbers have a major impact on the depth, diversity, and resources available for a departmental TA-training effort. A large university, characterized by the existence of a center for research on learning and teaching, can support extensive orientation programs, ongoing TA workshops, individual consultation staff, media services programs, and additional international TA-training and developmental programs. In contrast, at smaller colleges and universities, the chemistry department laboratory coordinator might be solely responsible for any TA training. A close inspection of both ends of this spectrum reveals some basic similarities and trends common to successful chemistry TA-training programs.

Most TA-training programs are characterized by two major components. The first is an intensive orientation for new teaching assistants, which varies from a two-week period at major universities to an afternoon session preceding classes at smaller colleges. All programs stress laboratory safety training (some states now mandate safety training for instructional certification).

The orientation covers general expectations, responsibilities, and instructional methods, with almost all departments requiring the new TA to participate in a microteaching presentation.

Depending on the time, interest, and support available, the orientation also might include extensive education programs to help the new TA develop the instructional skills most commonly associated with excellence in teaching. Other programs will stress diversity among student populations, alternative teaching methods, and ethics.

Additional initial programs aim to meet the ever-growing problems associated with the international teaching assistant (ITA). Some departments now are reporting that up to 78 percent of their new TAs are international students; state mandates are appearing that stipulate that students whose first language is not English may not teach during their first semester. Many departments continue to seek solutions to ITA problems: Cultural orientation programs, testing specific chemistry vocabulary, and residential programs that house ITAs and native English-speaking TAs together to encourage language fluency are being considered.

The second major component consists of ongoing instructional activities available during the semester. Often presented as a graduate course offering, the most popular instructional activity is the course-oriented weekly TA meeting. Concentrating on subject matter, lesson planning, instructional activities, and problems with planned lab experiments, the weekly meeting gives new assistants constant guidance and reinforces their instructional skills. Educational seminars, the use of *Project Teach* (Division of Chemical Education, American Chemical Society, 1970), and workshops continue to be integral parts of on-the-job training at many colleges and universities.

International TA training during the semester is centered around English as a Second Language course offerings, apprenticeships with native English-speaking TAs, and a variety of other cultural orientation programs.

The final aspect of this component is evaluation of TA performance. Gathering student opinions about teaching and using standard faculty evaluation forms continue to be the most popular means; formal observations that give TAs immediate feedback, with alternative and constructive instructional strategies, also are being used.

—RQ

## State University of New York at Binghamton

The Department of Chemistry offers a threefold system of training to support and develop graduate teaching assistants. To ensure that the assistants are prepared for their first instructional assignment, they are required to participate in a one-week orientation program. The orientation includes university-wide TA programs, special sessions administered through the International Student Advising Office, and intensive departmental training. The departmental training covers the expectations and responsibilities associated with conducting laboratory and discussion sessions, with emphasis on instructional methods, procedures, and problem-solving techniques. A one-day review of laboratory safety also is included, which becomes the core for mandatory safety presentations throughout the semester. The final activity is a required microteaching presentation

of the first week's laboratory activities. Each presentation is critiqued by faculty and peers, strengths identified, and suggestions for improvement made.

The second component of the TA-training program concentrates on the development of effective instructional skills. Teaching assistants are required to attend weekly group meetings for their individual instructional assignment. A review of the previous week's effort is followed by a thorough presentation of the next week's instructional plan. The lesson plan covers instructional objectives, demonstrations of appropriate laboratory techniques, problems students might encounter with experiments, how data and calculations are treated, and grading criteria. The laboratory supervisor and the course instructor facilitate the meeting. The approach allows for continuity and maintains open lines of communication to produce the best overall educational experience for the undergraduate students and their teaching assistants.

The final and most effective part of the program is the ongoing evaluation of each teaching assistant. Every teaching assistant is observed weekly, and all TAs are included in the subsequent critique of their instructional presentations. The TAs, faculty, and staff work together to determine alternative or constructive approaches for improving the presentations. The open line of communication, which expresses a sincere, nonthreatening interest in developing the TAs' teaching skills, probably has done more to improve the graduate teaching experience than has any group workshop or related activity.

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## University of California, Riverside

TA training within the Department of Chemistry begins as part of the fall new graduate student orientation week and extends throughout the first academic quarter as the graduate course Oral Presentations in Chemistry. The course covers the technique of oral presentation, emphasizing the problems that arise in chemistry laboratory and classroom situations and is offered on a satisfactory/no credit basis.

The new graduate student orientation week includes several aspects of TA training:

(1) New TAs are assigned to their courses and then meet for several hours with professors in charge and experienced TAs. All TAs (experienced and new) give a "lab lecture" on a topic assigned one to two days in advance. The lectures are critiqued by all present.

(2) New TAs (along with most other department personnel) participate in a four-hour intensive safety program. Part of the program is general safety/lab practice; another part relates directly to the duties of a TA in maintaining a safe laboratory in the undergraduate setting.

(3) The Graduate Division conducts a one-day TA-training session for all new campus TAs. Chemistry TAs are segregated for part of the time as "lab science" TAs. Topics covered include the makeup of UCR undergraduate classes, grading policies, and discussion section techniques.

During the orientation week, the chemistry TAs spend almost two and a half days in these various

aspects of TA training.

During the fall quarter, new TAs attend Oral Presentations in Chemistry for ten weekly one-hour sessions, in which they discuss the American Chemical Society's *Safety Handbook* and its Division of Chemical Education's *Handbook for Teaching Assistants.* In addition, each TA is videotaped lecturing to the entire group and fielding questions, and the session is critiqued. TAs are encouraged to view their own tapes privately, as well.

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## University of Massachusetts at Amherst

The Department of Chemistry has primary responsibility for training its TAs. Some general training is available through university resources, but the department's program is goal oriented and better addresses the discipline-specific needs of its trainees to make their teaching more effective.

The basic TA assignment is ten scheduled hours a week. For example, a TA assigned to the Organic Division will probably serve as a lab instructor for three 3-hour labs and help with a modest amount of grading (hour exams and the final). A TA assigned to the Analytical Division, and specifically to the instrumental analysis course, will probably serve as a lab instructor for a 4-hour lab, spend three hours grading reports, and another three hours setting up, calibrating, and trouble-shooting instruments. A TA assigned to the general chemistry program will probably serve as a lab instructor in two 3-hour labs and spend four hours in the Resource Center, which emphasizes better teaching through electronics assistance (PCs, VCRs, etc.). As lab instructors, TAs always work under the guidance of a faculty supervisor. They do not teach courses, sections of courses, or discussion classes.

A substantial part of the TAs' training occurs before their first registration. They report a week before the start of classes for a three-part orientation program that covers testing and counseling, health and safety, and teaching. Part one is oriented to the academic program of the graduate student. Part two emphasizes lab safety, fire safety, laboratory first aid, local safety practices, and waste disposal, with lectures and demonstrations by members of the Environmental Health and Safety Group and medics from Health Services. Part three, a teaching workshop, consists of films, lectures, and discussions conducted by faculty and experienced TAs and intended to illustrate to new TAs what is expected of them and what they can expect of the department. The culmination of the program is a lecture-demonstration by each new TA on the use of a single-pan balance, which is videotaped and critiqued. Also, since many of the beginning TAs are assigned to the general chemistry course, they spend time on the use, policies, and practices of the Resource Center.

First-year TAs are evaluated by their faculty supervisor midway through their first semester, and all TAs are evaluated by their students and supervisor at the end of every semester; students complete mid-semester evaluations for any TAs who need to improve. In general, faculty supervisors

actively guide the performance of their TAs during a course.

TAs for whom English is a second language are screened for language proficiency upon entrance and might be assigned to special classes by the Communication Disorders Clinic.

Each year, of some twenty to twenty-five first-year TAs, maybe half a dozen cannot communicate effectively in English. Recently, the university implemented a special program for this small group that begins four weeks before the regular orientation. They work on communication skills, teaching methods, and learn the American way; they also practice teaching with a summer school course in general chemistry. During that period, the new TAs live with experienced graduate students.

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## University of Michigan

The Department of Chemistry requires each of its graduate students appointed as teaching assistants to participate in a department-based training and orientation program. During a three-day period just before the beginning of classes, a group of about fifty new graduate students are introduced to the two instructional contexts in which they will practice: laboratory and discussion.

One faculty member in the department is assigned as the coordinator for TA-training activities, with three to six other faculty members actively participating. Typically, these faculty are to teach the introductory courses to which the new TAs are assigned. A staff of six to eight experienced graduate students, selected by the coordinator on the basis of their teaching skill, are the program's facilitators.

The group of trainees is subdivided by the type of introductory course they are likely to be assigned, either general or organic chemistry. The two training programs, while tailored to the specific needs of each course, are the same in concept. Their overall design is described below:

On the first morning, TAs are introduced to the department and key personnel; given an overview of the department's philosophy of the graduate student as student, teacher, and researcher and the practical and ethical responsibilities of the teaching assistant; and receive assignments for subsequent TA-training sessions. They also receive written materials describing useful departmental resources, as well as an in-house manual of practical information about the logistics of specific courses and assignments.

That afternoon, the trainees experience the undergraduate teaching laboratory as if they were new undergraduates: They are in an unfamiliar setting and are expected to perform the first laboratory assignment for the term (the experienced facilitator plays the role of the classroom TA). In this way, the trainees discover the logistical demands of their new setting: how things are done, who gets them done, and how the TA facilitates the process for new students. The trainees also discuss the philosophy of how and why the laboratory problems are designed as

they are.

On the second morning, the TAs work in groups they had formed the previous day. Under the supervision of both a faculty member and at least one experienced TA, the groups of five to eight trainees present solutions to typical examination questions, which have been drawn at random from the introductory course. (A set of these questions, without solutions, was provided on Day One, and the trainees were encouraged to form groups and devise solutions to them.) A discussion/feedback session about specific instructional techniques naturally follows from the presentations as they are made. An atmosphere of constructive criticism and positive reinforcement is maintained for all of the presentations, and most of the comments are elicited from the trainees themselves.

That afternoon, the trainees, more experienced now, participate in another laboratory session. The role of the TA in a laboratory setting once again is modeled and discussed by the facilitator.

On the final morning, the trainees must construct a discussion environment in response to unfamiliar questions. Afterwards, the program concludes with remarks that reinforce the professional and ethical responsibilities of the TA.

The philosophy of the TA-training program follows the apprenticeship model of instruction: place the novice into as authentic a learning situation as possible to provide the most meaningful context for his or her future activities. The Department of Chemistry believes in immersing its students in an authentic and supportive environment that clearly describes its instructional program's expectations and rationale.

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## University of Missouri at St. Louis

Teaching assistant duties in the Department of Chemistry consist of leading discussion sections, preparing and grading quizzes, and/or acting as laboratory instructors. The department provides both formal and informal training for teaching assistants, with additional evaluation and training for foreign TAs.

All teaching assistants receive formal training in a one-credit course offered every fall semester and, when there is sufficient demand, winter semester. The class meets once a week for fourteen weeks and addresses topics such as ethics, teaching styles, methods of evaluation, appropriate use of the library, the writing of reports, laboratory safety and first aid, and what to do in an emergency. Each student prepares and delivers a short lecture, which is videotaped and evaluated. Less-formal training is offered within the context of the particular course with which the TA is involved. The faculty member teaching the course determines how much informal training occurs, but it always includes a discussion of the goals of the course, the methods of evaluation and why they are used, and the responsibilities of the TA and the faculty member.

At the end of a course, the TA's performance is evaluated by the students in the class and by the faculty member, with feedback provided to the teaching assistant.

The increasing number of foreign graduate students in the department has led to increased demands for TA training. The Missouri legislature prohibits students whose first language is not English from teaching during their first semester and requires campuses to provide such students with a cultural orientation course. The Graduate School provides such an orientation each fall, and attendance by all new, foreign graduate students is mandatory. The course emphasizes teaching styles and professor-student relationships in American colleges and includes an evaluation of each student's communication and teaching skills. The Department of Chemistry itself also provides evaluation and training for foreign students, administering its own spoken-English test specific to the discipline of chemistry. The number of new TAs each year is small, so the training is quite informal and includes some one-on-one discussion of how the American classroom environment might differ from that in other cultures.

Most incoming teaching assistants are assigned to introductory chemistry laboratory and/or discussion sections. A senior graduate student oversees the introductory laboratories and is available to provide guidance.

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## University of Washington

The goal of the chemistry department's TA-training program is to ensure that teaching assistants are confident and effective as teachers. The training includes activities to increase their confidence in the classroom, improve their teaching skills, and emphasize the importance of their role as teacher. The program meets the needs of a diverse TA population that includes international graduate students and undergraduates. It operates under the direction of a faculty member, who is assisted by an experienced teaching assistant.

For new graduate students, training occurs during a two-week orientation program held before the beginning of fall quarter. Training focuses on issues in teaching and includes information on the department's expectations and the resources available within the university. Two sessions highlight the diversity of the student population TAs will teach, including different cultural backgrounds and learning styles. Alternative teaching methods, along with guidance on techniques that fit both the TA's own personality and the needs of the students, are also presented. Interpersonal skills are discussed, emphasizing interactions with students in a laboratory setting and how to handle problems such as plagiarism. The training also includes a microteaching session in which each TA makes a short presentation to a small group of peers. The session is videotaped and evaluated by the peer group with the help of a facilitator. Finally, TAs receive a manual that outlines the practical aspects of teaching chemistry laboratories at the University of Washington.

Training to increase the graduate TAs' confidence in their knowledge is course-specific.

For laboratory sections, the instructor assigned to training holds weekly lab practicums in which the TAs perform the course experiments, engaging in the same thought processes and calculations their students will. A similar approach is used for quiz sections, where TAs meet with the instructor to go over the concepts covered in the lectures and prepare answer sheets for the homework problems. Interaction with the instructor while grading laboratory reports and tests provides opportunities for reinforcing the TAs' knowledge of basic chemical concepts.

Finally, TAs are challenged by departmental seminars and/or discussions on issues of ethics, pedagogy, and education research.

Two other groups — international TAs and undergraduate TAs — receive special training. For international TAs, the orientation training is supplemented by a one-quarter program emphasizing English proficiency and the cultural aspects of an American university. Assigned readings and observations of experienced TAs promote discussions; language tutorials emphasizing chemical terminology and frequent, short presentations on chemical concepts by the international TAs help them gain confidence in their ability to use English to teach chemistry. The department also employs several undergraduates as TAs. These students must complete a one-quarter course in teaching chemistry, which covers the same topics as the graduate TAs' orientation training but in weekly lecture/discussion sections. The students also teach for one hour each week and grade student homework assignments under close supervision of the instructor.

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## Programs of Note in English and Composition

edited by David A. Jolliffe

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There is no greater act of misnaming in all of higher education than labeling novice instructors of introductory English courses "teaching *assistants.*" In almost every university with both an undergraduate composition requirement and a graduate program, graduate teaching assistants really assist no one. Usually, they are responsible for the day-to-day operation of the class, for assigning and responding to student writing — in short, for introducing undergraduates, usually first-year students, to the kinds of critical reading and clear writing that a university education demands. Because English TAs do such important and demanding work, English departments and writing programs have a large stake in preparing them not just to survive in the classroom but more vitally to assay their craft, to learn, to take undergraduate teaching seriously and do it well. The five descriptions in this section raise issues of preparation, innovation, and professional development that all English

TA-training programs should consider.

The range of issues a successful training program should prepare TAs to grapple with is staggering. TAs must come to understand the basic nature of the course they are being asked to teach: What should be its intellectual level, its degree of difficulty, its scope and its rigor? To what extent can it be expected to inculcate academic "skills" that are transferrable to other academic domains? To what proportionate degree should the course emphasize critical reading, correct and effective writing, and clear understanding of linguistic structures and usage rules? To what proportionate degree should it aim to foster students' writing processes and to shape their written products? What are the basic "texts" in the course — books about writing, nonfiction prose, canonical literature? Or are the students' own compositions the primary "text" in the course? To what degree should the course emphasize knowing something about these texts versus simply appreciating and enjoying them?

TAs also must come to understand the basic nature of the students they will be teaching: What has been the range of their experience with academic reading and writing? Should they be expected to have mastered appropriate, college-level reading and writing abilities before this course? Or should they be seen as students on the threshold of a new kind of intellectual experience that will demand different levels of engagement with reading and writing?

Having been introduced to these huge questions, TAs must be trained in how and why to select, sequence, and assign reading and writing tasks; how to foster effective reading and writing processes in students; how to contextualize instruction in correct "grammar" and usage; how to get students engaged critically in their reading and writing; how to respond to student writing themselves and to orchestrate responses among students to one another's work; and how to conduct a classroom — how to get students to participate, to learn actively, to *do*, since no one ever learned much about reading and writing by listening to someone lecture about it. Finally, TAs must be trained (and have the chance to discuss frequently) how to interact with students, with one another, and with their "regular faculty" colleagues: What kinds of relationships should they develop with their students, who might be roughly their own age? What kinds of professional organizations and activities should TAs associate with? How do TAs "fit" in the faculty as a whole?

The best English TA-training programs seem to address these myriad issues and questions not just by telling TAs "here's all you need to know"; instead, the best programs offer seminars that permit TAs to confront the issues directly and forge answers to questions in consultation with experienced, expert mentor instructors. The best programs attempt to produce not just "service-course" staff but innovative professionals, people with the potential to become leaders of the faculties they will join in the future. The best programs provide TAs possibilities for professional development, just as colleges aim to foster the professional growth of new tenure-line faculty.

The programs described in this section place the actual training seminar in different chronological slots. The University of Illinois at Chicago, for example, places its new English TAs in a graduate seminar on teaching college English in the regular academic term before they teach for the first time. The University of Minnesota, Syracuse University, and the Florida State

University all provide some kind of seminar for new TAs in the summer before their first fall term. Most universities nationally require, or strongly recommend, that new TAs take a pedagogy seminar while they are teaching their first course. In the best programs, the seminar is taught by a tenure-line faculty member with both a research agenda related to teaching introductory English and significant teaching experience. The seminar introduces TAs to the philosophies, theories, and bodies of research that support instruction in critical reading and writing. Given its legitimate content and rigor, the introductory seminar in the best TA-preparation programs counts as a regular course toward degree requirements. Nearly all programs follow the seminar with a series of regular meetings or colloquia for continuing, inservice TAs.

Ideally, the once-standard practice of handing TAs the syllabus and texts for a course and ordering them to "teach by the book" no longer prevails. Thoughtful innovation is now encouraged. In the best programs, TAs are given some leeway — and guidance — in developing their own curriculum and pedagogy that will meet the goals of the introductory course. This degree of freedom encourages TAs to feel a sense of ownership in an instructional program that might otherwise seem monolithic, impersonal, and excessively bureaucratic. In the same vein, TAs in some universities are invited to join in the efforts to develop pedagogical materials that are used throughout the introductory English program. At the University of Illinois at Chicago, for example, teams of TAs compiled and edited a collection of readings and sequences of assignments designed specifically for the first of two required writing courses. At Syracuse University, TAs produce teaching portfolios that document both their own development and the progress of the instructional program. The increasingly interdisciplinary nature of writing instruction at colleges and universities presents TAs with many opportunities to create innovative instruction. The University of Minnesota, for example, prepares TAs to teach a variety of courses, within its Program on Composition, on writing in different disciplines. Cornell prepares TAs from fields throughout the university to teach introductory writing courses in their disciplines.

Since English TAs are usually not assistants at all but instead relatively independent novices, the best preparation programs provide them with opportunities for professional growth and development. Particularly praiseworthy are efforts to provide TAs with research funding, travel support to attend professional meetings, libraries and resource centers, and awards for outstanding teaching and contributions to the instructional program.

From a financial standpoint, English TAs in many universities teach the courses that generate funding for the department as a whole. From a professional standpoint, English TAs represent the future of the English teaching professional. From all standpoints, their excellent preparation is vitally important to them and all levels of their colleagues.

—DAJ

## Cornell University

The John S. Knight Writing Program serves Cornell's 3,000 freshmen, who are enrolled in seven colleges. Most are required to take two freshman writing seminars. Students choose from more than 125 subjects offered by more than thirty departments.

About one third of the freshman writing seminars are taught by faculty members or lecturers; the rest are taught by advanced TAs in a Ph.D. program (fewer than 40 percent of the TAs are from the Department of English; some of these are working for the M.F.A.). Each TA is totally responsible for one section of no more than seventeen students (TAs teach no more than one course per semester). TAs might teach an already existing course, but more often they must design their seminar: They plan the texts to be studied, the sequence of assignments, and so on.

All TAs are supervised during their teaching by faculty members (course leaders) from their own department. These course leaders hold staff meetings and observe classes. All TAs also are required to take a training course, Teaching Writing. Graduate students may take Teaching Writing in the summer (before teaching their first writing seminar) or in the fall (while teaching that first seminar); the course lasts for six weeks either semester. This course appears on their transcript as pass/fail or no credit. In summer, most TAs are apprenticed to a faculty person teaching a six-week writing course. In the apprenticeship, TAs receive guidance about how to comment on papers, lead class discussions, and other teaching skills. TAs receive a substantial stipend for their apprenticeship work; in fall, they receive a small stipend while taking Teaching Writing.

Teaching Writing aims to help TAs discover how to integrate the teaching of writing with the teaching of their discipline and how to make learning to write become a natural part of learning. During the six weeks of Teaching Writing, the TAs meet once a week for two and a half hours. During the first hour, TAs attend a lecture given by one of the three course facilitators: the director of the Writing Program, the director of freshman writing seminars, or a visiting faculty expert in composition (who also leads a six-week teaching-of-writing seminar for selected faculty). TAs then convene in small groups to discuss the readings assigned for the week, the lecture, and other matters. These discussion sections are led by the course facilitators, senior lecturers in the Writing Program, and experienced TAs. Topics of the lectures and discussions include "Thinking Through Writing," "Writing to Read," "Reading to Write," "Style and Its Contexts," "Commentary on Student Writing," and "Sequences." Each week, TAs submit a plan for an integrated reading and writing assignment, accompanied by a rationale.

Supplementary workshops (given by faculty members or experienced TAs) take place during the six-week seminar and throughout the year. These are designed to continue exploration of such subjects as "Commentary and Grades," "Collaborative Learning," and "Issues of Gender, Race, Class, and Sexuality in the Writing Classroom." Plans exist to further develop the year-long support of TAs, possibly by planning more informal staff meetings (e.g., brown bag lunches) and by instituting a resource board of faculty who would be available for consultation and participate in the training course and/or workshops.

Some TAs take Teaching Writing not because they will teach freshman writing seminars but to enrich the uses of writing in courses such as astronomy and chemistry. Several such TAs

have consequently become interested in teaching their own freshman writing seminars and have done so.

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## Florida State University

The first-year writing program includes a common curriculum based on current research, theory, and pedagogy within composition studies. Graduate teaching assistants teach two courses each semester or teach a single course and tutor in the Reading/Writing Center. The first-year writing program relies on the support of this fully established Reading/Writing Center and on a first-generation Macintosh Apple Talk Writing Room. The TA staff usually ranges from sixty-five to seventy members, consisting of M.A. and Ph.D. candidates who are pursuing coursework in creative writing, literature, and rhetoric.

Teaching assistant training occurs both during the summer and during the academic year. Although the graduate students selected to teach first-year writing are themselves proficient readers and writers, they need the opportunity to learn to teach. For those TAs without any previous college teaching experience, coursework and internships prepare them for the classroom. During the six-week summer training program, TAs enroll in two courses, Teaching English in College, taught by the director of first-year writing, and Teaching English as a Guided Study, taught by a rhetoric professor. In these classes, new TAs begin to visualize and design their first course. They also can practice techniques by writing student assignments, participating in peer groups, and so on; they discuss evaluation by examining and responding to student papers.

In addition, the TAs learn one-on-one conferencing skills by working several hours each week in the Reading/Writing Center. Finally, they train in a senior TA's summer session first-year writing class. The new TA sits in on the class, plans and presents part of the senior TA's course, and has the chance to discuss evaluation and grading with that TA.

During the fall and spring semesters, new TAs with no previous experience (those in the summer program) and those new TAs with at least one year's previous experience at the college level participate together in a year-long, two-part mentoring program. First, each TA is assigned an official department mentor drawn from the writing and rhetoric faculty and department instructors. The TA and mentor meet several times throughout the semester to discuss the new teacher's progress. At least once, the mentor visits the TA's class and reviews a set of TA-evaluated papers, with the aim of supporting the TA's growth as a teacher. Second, each TA meets bi-monthly with a discussion group of peers, directed by a rhetoric professor. TAs read articles, keep teaching journals, and discuss and share strategies, allowing them to examine their growing expertise and raise questions that might otherwise go unasked.

As part of their continuing training, TAs invite faculty members to their classes each year. These visits allow TAs to share teaching discussions with professors in different areas of English

studies. Professors write letters of support for the TAs, which are kept on file in the first-year writing office. These visits also keep professors current with the pedagogy of the first-year writing program.

During the academic year, TAs attend workshops and program meetings and have the chance to work on a variety of committees. Each year, one TA is chosen to assist the director of first-year writing.

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## Syracuse University

Teaching assistantship appointments are granted by the English Department and directed by the Writing Program, a unit different from but associated with the English Department. TAs are responsible to the Writing Program for teaching writing studios and for participating in professional-development activities. In turn, the Writing Program is responsible for evaluating and monitoring the quality of TA instruction generally and for mentoring TAs throughout their teaching experience.

Graduate student teaching assistants in the Writing Program are expected to develop their own studio courses within the general guidelines and goals stated by the Writing Program. This means that teaching assistants develop two courses yearly — their versions of the required first-year undergraduate course in the fall and the required second-year undergraduate course in the spring. They teach a total of three sections of these courses a year. As a regular part of teaching the courses they have designed, TAs teach three hours each week, hold two to four writing conferences with each of the twenty students enrolled in each course, respond to drafts of those students' writing, and grade the final versions of the students' writing projects.

Because the Writing Program asks TAs to do work significantly like that of academic professionals, it provides them with a series of preparation and mentoring opportunities. During the summer, to introduce new TAs to the work of the program, members of the Writing Program's summer team correspond with them. In the fall, after participating in an all-university orientation program, new TAs attend a teaching conference in the Writing Program that introduces them to theories and engages them in practices for the teaching of writing. During this conference, TAs study with their soon-to-be colleagues (tenure-track faculty, professional writing instructors, and experienced TAs) in seminars designed to simulate the studio classes they will themselves teach; they also participate in "de-briefing" discussion groups and attend panel presentations. In the fall, new TAs:

(1) take a required graduate practicum in the teaching of composition;
(2) participate in weekly, hour-long coordinating group meetings, where they discuss specific problems of classroom practice and composition theory as it informs their teaching concerns;
(3) meet periodically and informally with experienced teachers in the program who have been

asked to mentor them one-on-one; and
(4) observe their peers.

Each spring, the TAs, like other instructors in the Writing Program, submit teaching portfolios for review by program faculty. The portfolios contain their course design overviews, course syllabi, teacher-developed materials, observation reports, and written reflections on their teaching during the year.

During the course of the year, the TAs attend professional-development events in the Writing Program (e.g., 205 Planning Day, an opportunity to begin course development; spring teaching conference; talks by visiting experts) and they confer with faculty in scheduled interviews.

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## University of Illinois at Chicago

The English department prepares teaching assistants to teach introductory courses in expository and argumentative writing and literature. Its TA-training program has four principal components.

First, new TAs who do not have significant college/university teaching experience do not teach during their first semester under contract (almost all incoming M.A. TAs do not; about half of incoming Ph.D. TAs do). Instead, they are paid to participate in a semester-long training program that has three components. The new TAs take a graduate, credit-bearing seminar, Teaching College English. In the course, students read and write about theory and research in rhetoric, composition studies, and literary criticism; participate in group activities centered around real scenarios that confront new instructors; and do some controlled teaching. The final project for the seminar is an annotated syllabus for a course the students will teach the following term. While the seminar is required for new, inexperienced TAs, it is open to any interested graduate student and generally enrolls many who are not employed as TAs. New, inexperienced TAs also are assigned to work with an experienced TA or lecturer who serves as their mentor. The new TAs attend the mentor's class consistently; evaluate papers in consultation with the mentor; tutor a group of students; and teach one to two weeks of the mentor's course. Finally, these new TAs work four hours each week in the department's drop-in, tutorial Writing Center.

Second, all TAs, both new and returning, are assigned to a peer consultation team consisting of three or four TAs who are teaching sections of the same course. These teams meet three times a semester to read, assess, and discuss sample papers; participate in discussions of problematic scenarios; and work on curriculum-development projects.

Third, both the English Composition Program and the Undergraduate Studies Office hold staff meetings for all TAs at least once a semester. At these meetings, administrators in charge

of introductory writing and literature courses go over matters of pedagogy and curriculum.

Fourth, the English Composition Program works very hard to involve teaching assistants directly in all phases of curriculum and program development. For example, the program has just published the second edition of an anthology of essays that most TAs use in the introductory writing course. The book of readings and sequences of writing assignments was compiled by a fifteen-member team of teaching assistants and lecturers. In addition, the university recently has shifted from a quarter to a semester curriculum. Teams of interested TAs were involved in rewriting the curricula for all the introductory courses to reflect the shift from ten to fifteen weeks. The team-oriented approach helps TAs feel as though they share "ownership" of the program. First-year M.A. TAs teach one course per semester; all continuing TAs teach two.

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## University of Minnesota

The Program in Composition and Communication provides writing instruction to nearly every student at the university, primarily in a required freshman-level introductory course, but also in one or more of a dozen upper-division courses taught in generalized disciplinary areas. The program is an administratively autonomous unit in the College of Liberal Arts, managed by tenured professors from the Department of English. All of the program's composition courses are taught by some 120 trained teaching assistants, who are appointed for up to six years while pursuing graduate degrees. Although most instructors are graduate students in English, as many as fifteen other departments are represented.

New TAs are assigned to teach three sections of the introductory freshman writing course. These new TAs come to campus two weeks before the start of fall classes to participate in a required teaching seminar. Run as an intensive, highly participatory workshop, the seminar taps the resources of faculty and experienced TAs both in and beyond the program through short presentations, small-group work, and general advising. By the fall quarter, every TA has a fully developed course, a detailed syllabus, and a clear sense of direction. The seminar guides TAs to create their own version of the introductory course following several models that reflect the goals of the program. The simultaneous challenge and support help the new TAs to think like faculty members while guiding them to make decisions based on theoretical principles.

Throughout the fall quarter, the new TAs are required to meet once a week as a group to share ideas; talk about teaching strategies; and hear from leaders in the program about methods, theory, and research. Each new TA shares an office with an experienced TA, which fosters productive mentoring relationships even outside the context of the seminar.

During the winter quarter, as the new TAs begin teaching their second course, they meet weekly in small groups of three or four with a program leader to continue to work on their

teaching. Winter quarter focuses more sharply on the development of teaching styles. TAs are required to observe at least two of their peers and then meet to discuss the observation. Each TA also is observed at least once by the group leader. Informal meetings and consulting continue to the end of the first year.

TAs teach advanced composition courses in their second and subsequent years. Before the start of fall classes, all TAs assigned to teach advanced courses must participate in teaching seminars designed to acquaint them with the course they will be teaching. During the year, each TA must visit the class session of (and be visited by) another TA or faculty member. The observations are nonevaluative, focusing on teaching styles and methods. The TA sends a report to the director, documenting what was learned from the observation(s). The program is currently implementing a teaching portfolio project to enhance faculty development.

TA development in the Program in Composition includes travel support to professional conferences on the teaching of writing; an annual teaching award; optional class videotaping; a library of instructional materials; and the Composition Research Group, a weekly forum. There are also ample opportunities for instructional development beyond the program. As many as twelve experienced TAs help run the program in course-equivalent administrative positions.

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## Programs of Note in Foreign Languages

edited by Susan Rava
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The field of foreign languages and literatures is a complex one, in that second-language acquisition is both a goal in itself and a tool for literary, historical, and cultural studies. Because of the unusual intertwining of language and literary theory, foreign language disciplines themselves are a natural arena for training future teachers.

The model programs in this section cover private and public institutions, medium and large ones, and graduate programs leading to the Ph.D. as well as to the M.A. They share many common features that in the last ten years have emerged as crucial to success. First, each program requires formal TA training for new TAs. Second, training begins before the semester so that new TAs enter the classroom with some preparation. Third, in the presemester phase, most departments emphasize microteaching or the presentation of a sample class. Fourth, most include several phases, beginning with orientation and a pedagogy course in the initial semester followed by continuing supervision, observation, and counseling. Fifth, most training involves experienced TAs. And finally, the programs enjoy the support of regular faculty members, who often participate,

thus valorizing the effort within the discipline and the institution.

Several innovative ideas mark the collection of programs. One is the "shock" lesson offered by the University of North Carolina at Chapel Hill. There, new TAs are reminded during orientation of what it is like to learn a brand new language. A second innovative idea is the peer classroom visit. TAs learn well from one another, unjudged by their professors; furthermore, peer visits encourage collegiality and cooperation on the teaching front. But, two words of caution about peer visits are necessary: A faculty supervisor should prepare TAs with simple techniques of observation, perhaps using a brief comment form, and a supervisor must encourage TA peers to emphasize the positive so their comments don't seem threatening.

A third commendable idea is the notion of a reward for excellence as a TA. Rewards take various forms: university-wide recognition, for example, at the State University of New York at Stony Brook; course assignments with increased responsibility and independence, such as at Washington University; a role as official mentor or intern, at the Pennsylvania State University, for instance; and presentations at orientation workshops.

While the rationale for discipline-based TA training is compelling, limiting ourselves to the discipline risks reinforcing feelings of isolation and self-importance. A discipline might neglect to expose TAs to broader educational issues, such as diversity on campus and curriculum concerns. In short, we can come to see ourselves as the center of the universe, thus excluding pedagogical and collegial interaction with other fields. In conclusion, the collection of programs that follows praises discipline-based programs in language and literature, even as it cautions about the pitfalls of parochialism.

—SR

## Pennsylvania State University

The Department of German trains incoming graduate teaching assistants in three ways: The first training opportunity is the departmental preservice orientation program, which all new TAs must attend. This four-day program prepares the TAs for their teaching assignments, introduces them to the textbook and ancillaries they will be using, and provides an overview of the most pressing methodological questions. It includes a videotaped microteaching session in which the two faculty TA supervisors, experienced TAs, and new TAs present to the group a segment of the first chapter; these tapes are screened by the entire group before the first day of classes. In this way, all new TAs become acquainted with both the textbook and various approaches to teaching. The faculty members in charge of TA training conduct the orientation program. These specialists in foreign language pedagogy are assisted by the senior TAs, who discuss more specific matters with the new TAs.

The second opportunity occurs during the fall semester, when all new TAs must attend a three-credit course, The Teaching of German. The course presents an in-depth view of methodological and pedagogical matters related to college teaching, ranging from student motivation to curricular planning and comparative textbook analysis; it also covers a wide range of professional and educational issues associated with foreign language teaching at the beginning

and intermediate levels.

TA training continues during the fall semester in a required, one-credit departmental workshop. The weekly meetings last seventy-five minutes and serve several purposes. Initially, they provide a forum for peer discussion of practical matters related to classroom teaching. They also include a review of the previous week's classes and an overview of the next week's materials, during which faculty supervisors or senior TAs offer feedback based on their experience. Classroom observation by the faculty supervisors and other department members also is part of the workshop, and selected segments from videotaped classes are shown to highlight successful or particularly interesting instructional approaches. In addition, the new TAs are encouraged to ask specific questions, whether about the coordinated tests and examinations they must prepare or about language proficiency issues. As part of the workshop, the new TAs also must attend the various university-wide seminars offered by the Instructional Development Program each September.

A senior TA who has demonstrated skill and experience in teaching acts as a coordinator at each of the three language course levels to which the new TAs are assigned during their first two years. Together with the faculty supervisors, these course coordinators assist all TAs in the department.

Throughout the first year, the supervisor in charge of the new TAs and other department members continue their classroom visits and discuss their observations; these visits extend into the second and third years, during which the second TA supervisor is in charge. In addition, new TAs must observe classes taught by experienced TAs, which further acquaints them with different approaches to language instruction. To round out their preparation, TAs interested in specific matters of comparative linguistics are encouraged to attend a biannual course that offers a contrastive analysis of the English and German languages with special emphasis on the relevance of these materials to classroom teaching.

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## State University of New York at Stony Brook

The Department of Germanic and Slavic Languages and Literatures is one of very few departments nationwide to offer a program leading to the doctor of arts degree in foreign language instruction in German or in Russian. In addition to courses in the major language and literature, students take twelve credits in pedagogy. These can include courses such as Methods of Foreign Language Teaching, Strategies of Teaching Russian, Second Language Acquisition, Language Testing, Teaching Practicum, or an internship or externship. The internship is a supervised teaching experience within the university; the externship is a supervised teaching experience in an area high school or junior college. These courses are required of all doctoral candidates, regardless of whether they are also teaching assistants. Students in the program thus gain both theoretical and practical

experience in foreign language pedagogy.

The Graduate School gives teaching workshops, and the department offers all teaching assistants an orientation session before classes begin. The orientation covers teaching responsibilities, departmental policy, course objectives, syllabi and texts, classroom management, student evaluation, and related matters. The Slavic section also has a three-credit course, Strategies of Teaching Russian, that specifically addresses problems of Russian language instruction. The Slavic section requires the course of all graduate students in its program, not just teaching assistants. German students often take a special methodology course with the Goethe Institute, in New York.

Teaching assistants also can register for a three-credit Russian or German language or literature practicum. These courses usually meet once a week and are taken in conjunction with a teaching assignment. In addition to general foreign language methodology, students gain practical experience in planning course syllabi, designing specific lesson plans, teaching a beginning or intermediate language class, developing quizzes and tests, and evaluating student performance. They are encouraged to do peer observation and are regularly observed by the course instructor, as well.

All teaching assistants are supervised by a faculty member, who consults with them weekly about the course they are teaching. At least two instructors observe each teaching assistant in the fall semester, and the course supervisor continues observations in the spring semester. These class visits are followed by a consultation with the teaching assistant. Graduate students are encouraged to work together and help one another. More-experienced teaching assistants sometimes serve as models for incoming student assistants, and many willingly give advice and assistance when needed.

The department has ten full-time faculty members and some thirty graduate students, of whom ten or so function as teaching assistants. This excellent ratio means that the TAs receive lots of personal attention, including frequent communication, both formal and informal. The program seems successful: Every year for the past four years one of the department's teaching assistants has won the university's Excellence in Teaching by a Graduate Student Award; several have participated in summer teaching workshops sponsored by the National Endowment for the Humanities and the Ford Foundation; and two have been selected for the Summer Exchange of Russian language teachers sponsored by the International Research and Exchanges Board.

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## Syracuse University

The program's goal is to develop competent teachers. Most TAs come to the department with little or no teaching experience. The unique demands of foreign language instruction require that instructors be familiar with the curriculum, materials, strategies, and use of technology,

as well as aspects of second-language acquisition and theory.

Training begins before the fall semester each year, with a four-day orientation workshop for new TAs and a two-day orientation workshop for returning TAs. The intensive orientations explain department policies and procedures, overview the instructional evaluation process, introduce the use of technology, familiarize TAs with teaching materials, and provide microteaching sessions and discussions with returning TAs and supervisors. The training continues throughout the academic year during bi-weekly staff meetings, departmental workshops, and ongoing conferences with coordinators. All twenty-four TAs assigned to the department participate fully in the program. TAs in the French and Spanish units also participate in a year-long peer coaching program in which pairs of TAs videotape and critique each others' classes.

TAs are expected to devote twenty hours of service per week to their teaching assignment. In the foreign languages department, each TA is responsible for planning, teaching, and evaluating one 6-credit section or two 3-credit sections of eighteen to twenty-two students. Typically, a TA spends six hours per week in the classroom, twelve hours preparing and correcting materials, and two hours consulting with students during office hours.

A professor of foreign languages methodology is one of the program presenters during the fall orientation workshop. Experienced TAs and other faculty serve on panels and are available for informal orientation. The fall orientation workshop, as well as the ongoing training during the semester, is coordinated and led by the respective language coordinators, who are faculty or staff members with backgrounds in language, literature, culture, language pedagogy, linguistics, supervision, and/or staff development. The various providers of TA training at Syracuse have an excellent relationship.

Each year, the TA-training effort is updated and modified to better meet the needs of new TAs. Over time, the departmental orientation period has been extended to the four-day program, which specifically focuses on the issues TAs will confront immediately. In response to evaluations from previous years, the current training is more practical than theoretical. Most of the orientation is devoted to hands-on activities related to teaching. Teaching materials are available one week prior to the first day of classes. Microteaching sessions of authentic lessons are videotaped, and experienced TAs and supervisors provide feedback. Future plans include extending the departmental orientation to a full week.

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# University of North Carolina at Chapel Hill

The training program for teaching assistants in Romance Languages has two short, presemester components, which are mandatory for all new TAs, followed by a two-credit course in foreign languages methodology for TAs who lack pedagogical training. The first component is a day-long, campus-wide TA orientation conducted before the fall semester by the Center for Teaching and Learning. The second is a departmental orientation, which consists of four half-day sessions that combine material applicable to all the languages taught in the department, plus specific meetings for Spanish and French TAs to address in more detail aspects of these programs. The sessions begin one week before the first day of classes with a general introduction to the language program: philosophy, organization, enrollments, requirements, and facilities. Subsequent meetings discuss communicative language teaching and lesson planning, and they include a "shock lesson," during which the TAs re-experience learning an unfamiliar language so they can appreciate their students' position. On the final morning, the Romance Language TAs, plus the German TAs, teach "micro-lessons," which are then critiqued.

The directors of lower-level Spanish and French conduct the orientation, with the participation of some of the experienced TAs (in the shock lesson, on a panel on their views of being a TA, in a presentation to the French exchange students, in a videotape of teaching Spanish). Since almost all beginning graduate students teach whether or not they have prior training or experience, the goal of the orientation is to prepare them immediately to enter the classroom.

The two-credit course, Theories and Techniques of Teaching Foreign Languages, is required of all TAs in the department who have not had pedagogical training. A noncredit workshop until four years ago, the course is taught jointly by the directors of the lower-level Spanish and French programs, with guest lectures by colleagues from within the department and from the School of Education. Topics covered include language acquisition, testing, small-group work, teaching speaking, listening, reading, writing, culture, literature, and grammar. Lectures are followed by language-specific presentations given by the students to demonstrate practical applications of the general theories. The purpose of the course is to present current views of foreign language teaching while providing techniques that can be used directly in the classroom.

Continuing training takes place through course meetings, led by coordinators who are either experienced teaching assistants or lecturers. These course coordinators, in consultation with the directors of lower-level language, provide the syllabus, organize common examinations

(written by groups of TAs), establish grading guidelines, check quizzes, etc. New TAs also are observed, by the director or the course coordinator or both, and videotaped once or twice each semester. Experienced TAs usually are observed or taped once a year. In addition, all first-year teaching assistants must complete three peer observations in the fall semester; class visits are encouraged at all levels. Workshops on topics such as computer-assisted language learning and use of video are conducted as needed.

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## University of Oregon

The Department of Romance Languages offers the undergraduate major in French, Spanish, Italian, and romance languages; an M.A. in a specific language; and the Ph.D. in romance languages. The first two years of undergraduate language instruction (and occasionally the third year) are taught primarily by TAs, for the most part candidates in the doctoral program. In addition to teaching one 5-credit class per quarter, a TA must register for a minimum of nine credits per term, with a suggested load of twelve credit hours.

The training program familiarizes TAs with proficiency-based foreign language instruction, current issues in methodology, curricular goals, and department/university policies. The program has three components: an orientation, formal coursework, and a practicum.

The noncredit orientation takes place the week before the beginning of fall term. All new teaching assistants must attend, as well as TAs who are teaching a course for the first time or who are using a new textbook. TAs become acquainted with the course goals, policies, organization, and instructional materials, and they participate in microteaching — short lessons presented to and critiqued by their peers. Finally, new TAs are trained to use instructional technology, including audiovisual equipment, computer-assisted instruction, and video production and editing equipment.

The coursework consists of a mandatory four-credit course entitled Teaching Methods. Its theoretical component includes current methodological models and their bases in applied and psycholinguistics, as well as pedagogical approaches to the teaching of the four skills (speaking, reading, writing, listening) and culture. Other issues include error correction, language anxiety, and test development. Its practical component involves the development and critique of pedagogical materials.

The one-credit practicum is designed for all new TAs as well as those teaching a course for the first time or with a new textbook. It meets for one hour a week to address practical issues of course and classroom management, including how to teach a particular point of the week's lesson, how to manage a classroom situation, and innovative teaching ideas.

In addition to these formal training opportunities, TAs are given continual feedback. They are observed at least twice during the fall term and once during winter and spring; additional

observations can be scheduled, if necessary. Each also is required to attend other TAs' classes at least twice a term and report on their visitations Finally, they also are required to attend a demonstration class at least five times per term.

The language program is headed by a coordinator, who has formal training in applied linguistics and foreign language pedagogy and a Ph.D. in the language. A member of the regular faculty, the coordinator is responsible for establishing curricular goals, setting course policy, writing syllabi, observing classes, teaching the methodology course, leading the orientation and practicum, and, sometimes, for teaching the demonstration course.

The coordinator is assisted by instructors who serve as supervisors for specific levels of language instruction. Supervisors hold at least the M.A. and have many years of language-teaching experience. They teach the demonstration class, assist in observing, and attend and participate in both the orientation and the practicum. Additionally, supervisors are responsible for the day-to-day management issues of the particular courses they head. Coordinators and supervisors in all languages form the Language Committee, which meets regularly to discuss issues such as classroom space, placement, and evaluation that affect language instruction in general.

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## Washington University

The Department of Romance Languages and Literatures offers a training program for graduate teaching assistants based on two principles: first, a commitment to formal preparation of graduate TAs for the teaching phase of their academic careers; second, locating such training within the department because of the large body of theory and methodology particular to second languages and literatures. A practitioner in teaching and scholarship within the discipline should be charged to train future teachers in a formal academic setting.

Using these two guiding principles, the department conducts a program with the following goals: orientation to American higher education and to the academic profession; orientation to the university, the department, and the TA role; study of second-language acquisition and teaching theory, as well as study of contemporary methodology; and supervised classroom teaching. In this way, TAs learn language acquisition theory and teaching methods and practice their skills in the classroom; it is hoped their esprit de corps will serve as a model for future collegial interaction. The department also maintains excellent instructional standards in undergraduate courses taught by TAs.

The cornerstone of the program is a required three-credit graduate methods seminar for

TAs in Spanish and French during the first fall of their teaching assistantship. A senior lecturer in French with the Ph.D. teaches the course and serves as departmental director of teaching-assistant training. The seminar, which has had an average yearly enrollment of fourteen students, meets daily for one week before classes start. In recent years, new TAs and professors of Arabic, Japanese, Chinese, and Russian also have attended its opening sessions, which are not language-specific. Once classes begin, the seminar meets weekly for two hours. Because the seminar begins in August, it ends in mid-November and, although TAs continue to teach their undergraduate classes, their official obligations for the methods seminar are over.

The methods seminar is two-pronged: Its first component includes normal graduate course requisites (lectures; discussions; textbook and supplementary readings; and various written projects, including two short essays on contemporary issues in the field). Its second component consists of supervised classroom teaching, including lesson plans, visits by the course professor, videotaping, and individual conferences with the professor.

The TAs' training continues into the second semester of their assistantship, with a follow-up visit by the director of TA training, optional videotaping, and a conference. In subsequent semesters, TAs serve in multisection language classes directed by a member of the professorial staff or as preceptors in upper-level undergraduate literature courses.

Finally, the department schedules two or three meetings a year to initiate graduate students (TAs and fellowship students) into academic life. Senior faculty recently have presented sessions on writing articles for publication, delivering papers at academic conferences, and research techniques. The department also supports international TAs who need to take university courses in English as a Second Language.

In the future, the department plans to expand its follow-up after the first semester of the assistantship by offering TAs increasingly varied assignments as preparation for academic life. Also, it will develop materials in second-language research and methodological practice and make them available to the wider community.

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# Programs of Note in Mathematics

edited by Bettye Anne Case
*Associate Professor of Mathematics, The Florida State University, and Chair, AMS-MAA-SIAM Committee on Preparation for College Teaching*
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According to recent data (Case and Blackwelder 1992), 95 percent of the eighty-two leading[1] mathematics doctoral programs report having both teaching assistant orientation or training programs and English language instruction for international TAs. In addition, 81 percent of these departments report using faculty observations of teaching assistants. These results represent a significant increase over the percentage of mathematics departments reporting these activities for 1985 (Committee on Teaching 1989). The mathematics community has specifically addressed these concerns for a number of years through the Committee on Teaching Assistants and Part-Time Instructors, a joint effort of the American Mathematical Society (AMS) and the Mathematical Association of America (MAA).

The survey results also indicate that student evaluations are very common. The videotaping of mock classroom sessions is also very common; 40 percent of those leading doctoral departments even reported videotaping in actual classes taught by TAs. Other TA-training activities are not so universal. For example, although peer observations by other graduate students have been reported for a number of years and have been generally considered very effective and are highly recommended (for example, see Committee on Teaching 1989), they are much less frequently used.

The National Survey of Teaching Assistant Training Programs and Practices elicited responses from eighteen TA-training programs in mathematics and two in statistics, as well as one from a project of the Committee on Preparation for College Teaching (CT committee) of the AMS, MAA, and the Society for Industrial and Applied Mathematics (SIAM). While almost all of these programs — and the programs described in the report *Keys to Improved Instruction* (Committee on Teaching 1989) — offer some form of TA orientation and English language training, the degree of faculty involvement varies from program to program. For example, frequent meetings with faculty supervisors are reported at Iowa State University, the University of Illinois, Oakland University, the University of North Carolina at Charlotte, and the University of Michigan. Other programs offer a seminar or course related to teaching, including the University of California, Berkeley; the Florida State University; Louisiana State University; Eastern Washington University; and Western Washington University. Many programs, such as those at the University of Southern Mississippi and Syracuse University, highlight the progressive nature of teaching assignments, with novice TAs assuming lesser responsibilities, such as grading or leading recitation sections, and more-experienced TAs teaching their own sections. The importance is generally recognized of careful screening of new TAs to assess language proficiency, subject-matter knowledge, and the ability to communicate mathematical concepts. Purdue University, the University of Michigan,

Texas Tech University, and the Ohio State University are examples of departments making a range of assignments to new TAs based on these assessments.

Because there are so many graduate departments in the mathematical sciences, and the climate in which they function varies widely, it might be helpful to note a few characteristics that affect the needs and choices of specific TA-training activities, and their effectiveness:

(1) More than 200 departments offer the Ph.D. degree; some in mathematics as traditionally defined, and others in statistics, operations research, or applied mathematics. Some 600 departments offer the master's degree in mathematics.

(2) At some universities, usually private, TAs do not carry a large teaching load; also, the relative wealth of these institutions can afford TAs the luxury of time and support. For example, Princeton and the University of California, Berkeley, are ranked closely with regard to the quality of their mathematical research faculty, but the responsibilities assigned their TAs are very different. Dartmouth and Florida State TAs also experience different teaching worlds, though the mathematics departments are similarly ranked also. State institutions, such as Ohio State, the University of Texas at Austin, the University of Michigan, the University of Wisconsin, and Purdue University, all highly ranked, must demand more productivity from their TAs than do most private schools.

(3) Regional accreditation agency requirements can affect TA duties; for example, institutions in the Southeast are not permitted to assign full classroom responsibility until the TA has successfully completed eighteen graduate hours in mathematics.

(4) Some orientation programs start in the summer before duties begin; stronger programs continue for several semesters. While most programs require graduate students to participate, some have many voluntary activities.

Four TA-training programs that begin early in a graduate student's study are described in this section.[2] The Marquette University program presents a four-semester course entitled The Teaching and Learning of Mathematics, in which all supported graduate students participate. At Syracuse University, the Department of Mathematics participates in the university-wide Future Professoriate Project, which, in a supportive environment, facilitates development of TAs' content expertise as well as teaching skills. Duke University and the University of North Carolina at Chapel Hill provide extensive professional-development opportunities to new TAs prior to their initial teaching assignment.

The first abstract in this section describes a project of the AMS-MAA-SIAM Committee on Preparation for College Teaching, which focuses on the preparation of doctoral students for future academic careers. In addition to concerns about TAs' competence using a variety of teaching modes in the classroom, the project provides a comprehensive introduction to nonclassroom aspects of professionalism (and, in particular, the tripartite role of the professoriate). Many of these concerns are an integral part of TA training in some disciplines, especially those in which TAs assume full classroom responsibility early in their period of graduate study.[3] In mathematics, many departments either do not require early teaching or design their offerings so that beginning TAs merely hold recitation sections and/or grade; some students receive fellowship or research

support and so might not ever be TAs. Some of these graduate students are certain to enter the professoriate. For that reason, a wide range of activities other than or in addition to TA training are needed to assure competent future teaching. It was the need for these additional components, needs that vary among departments and among students within a given department, that prompted the presidents of AMS, MAA, and SIAM to set up the CT committee in 1987. That committee's "First Report" describes its charge and recommendations (Committee on Preparation 1989).

In that project, partially supported by a FIPSE grant, eight doctoral department programs are cooperating; highlights of their activities are described here. All are developing examples of ways graduate programs can give specific attention not only to pedagogy but to the attitudes and climate as regards teaching. Although most of the programs include a seminar about professional responsibilities (proseminar), this project does not have one ideal program to replicate.

In conclusion, this section presents a variety of professional-development programs and practices for TAs. While not all practices will be effective in all settings, reporting about successful programs at various institutions throughout the United States will allow faculty interested in the professional development of TAs to enhance their efforts. The challenge is to continue to find new ways to encourage current and potential mathematics professors to view the TA process as an apprenticeship into the teaching profession.

—BAC and JPH

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Notes

1. See *AMS Notices*: Vol. 30, no. 3 (April 1983), pp. 257-267; Vol. 30, no. 4 (June 1983), pp. 392-393; and Vol. 35, no. 4 (April 1988), pp. 532-533.
2. Another twelve doctoral programs and three master's-only programs are described in *Keys to Improved Instruction* (Committee on Teaching 1989).
3. See, for example, the description of programs in "English and Composition" earlier in this chapter.

## AMS-MAA-SIAM Committee on Preparation for College Teaching

The project focuses on the preparation of doctoral students for future academic careers. Its activities come late in the doctoral program and presume prior TA training appropriate for local needs. (An earlier FIPSE grant provided support to survey graduate mathematics departments, describe programs, and make recommendations.) The project emphasizes the tripartite role of the professoriate and the diverse responsibilities of college faculty members during their career.

In its five years of work, the Committee on Preparation for College Teaching has presented

early recommendations to the mathematics community, obtained a FIPSE grant to help doctoral departments implement its programs, made presentations to a variety of national mathematics audiences, collected data about doctoral students and departments, and developed several interim publications.

Early publications include the "First Report" (*AMS Notices*, December 1989), which formed the intellectual basis of the committee's proposal to FIPSE, and "The Graduate Student Cohort, Doctoral Department Expectations, and Teaching Preparation" (May/June 1992). The capstone of the grant project will be a volume of helpful information for those new to the professoriate and the senior faculty who act as their mentors.

Site programs on eight campuses serve as examples of ways graduate programs can give specific attention not only to pedagogy but to attitudes and climate as regards teaching. Faculty mentors approach the challenge with ideas responsive to their own mix of students. Although most of the programs include a professional seminar (proseminar), the project does not try to replicate one "ideal" program. Rather, it emphasizes career-long learning and self-evaluation of both mathematical and teaching issues, as well as service opportunities. Doctoral students are encouraged to consider these aspects of their professional life, which will help them serve their students and departments as they move to faculty positions.

The following are sample "snapshots" of activities at the various site programs:

*University of Cincinnati.* Discussions and exposure to a variety of teaching methods generate an awareness of teaching as an important aspect of a professional mathematician's work. Graduate students of different national origins develop a sense of collegiality in the cooperative rather than competitive atmosphere.

*Clemson University.* In this well-established program, the proseminar is funded by a university grant and counts as a normal course in the faculty mentor's load. The emphasis on student content knowledge and lecturing competence is balanced with discussions of alternative and corollary teaching activities and methods; guest faculty visitors — and pizza parties — are popular features.

*Dartmouth College.* The oldest known comprehensive program also has the newest feature: a calculus enrichment program financed by Dartmouth's Office of the President and the Hewlett Foundation. The program gives graduate students practical experience in technology applications and in directing small-group learning.

*University of Delaware.* In the context of mathematical content outside the regular curriculum, collaborative work and interaction among participants provide a model for small-group learning and the discussion of various pedagogical techniques. "Thematic seminars" explore common issues and introduce computing applications that participants can adopt.

*Harvard University.* Analysis through case studies of actual problems faced by recent Harvard graduates now teaching as junior faculty in a variety of schools will comprise one segment of the new Professional Responsibilities Seminar.

*Oregon State University.* The program is a comprehensive and balanced presentation of various methods and issues in the teaching of college mathematics. The program's immediate concerns

include teaching various undergraduate major specialties, analyzing teaching strategies, directing enrichment activities, encouraging underrepresented groups, carrying out effective evaluations, and becoming aware of a wide array of professional issues. Students also begin to apply techniques of self-evaluation and to keep a notebook of resources.

*University of Tennessee.* An undergraduate lecture series for mathematics majors in the department and at Knoxville College, a nearby historically black institution, adds reality to considerations of the teaching, research, and service roles of young faculty and the evolution of those roles as the faculty members gain experience.

*Washington University.* In the context of a broad range of proseminar activities, self-evaluation, peer evaluation, and instructor evaluation of effectiveness and learning are constants. TAs confront the difficulty of objectively evaluating their own performance as the course strives to help students step outside themselves and become aware of all aspects of their teaching.

Comprehensive site descriptions as well as a generic description of a proseminar are available on request and will be in the final project volume.

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## Duke University

Since fall 1987, entering graduate students in the mathematics department have been required to participate in a teaching training seminar. Typically, graduate students do not teach until their second year. During their first year of graduate study, they usually are responsible for conducting a weekly, two-hour lab session in one of the new lab-based calculus sections or for conducting evening help sessions for students in the traditional calculus courses.

First-year graduate students participate in a teacher-training seminar run by the department's coordinator for TA training, an instructor in the mathematics department with a background in math education. The seminar meets about every three weeks. Topics for the seminar include the qualities of effective and poor teachers, observations of lessons taught by experienced teachers, the curriculum and what freshmen at Duke find difficult in the calculus course, constructing and grading of hour exams, planning lectures, departmental and university policies, and role playing of typical situations that might occur during office hours.

During their first year, the graduate students also present two lectures in actual classes. These presentations are observed by the department's coordinator of teacher training or a designated faculty member, who conducts a follow-up discussion. When possible, the undergraduate students taught by the graduate student complete a short evaluation consisting of three questions: What was best about the instruction? What was worst? What would be one suggestion you would make to help him/her improve his/her teaching?

During their second year and subsequent years, graduate students usually teach a calculus section of twenty-five to thirty-five students in the first, second, or third semester. They are expected to prepare all the lectures; teach all the classes; prepare, administer, and grade all the hour exams; and assign final grades to the students.

During their first semester teaching, the TAs are observed twice — once during the second week and once during the third week. These observations are followed up with a discussion. The observations are made by various regular tenured faculty and by full-time instructors. If the quality of the TA's teaching is satisfactory, observations stop; if problems exist, the TA is observed again later in the semester to see whether the student has implemented faculty suggestions.

Once during the semester, the graduate student's class is videotaped. The TA and the coordinator of teacher training review the tape and identify the salient features of the lecture.

Each of the graduate students teaching for the first time is assigned a mentor, an experienced teacher or graduate student in the department who examines the TA's tests before they are administered and is available for advice and problem solving.

At the end of each semester, the graduate TAs distribute teacher-course evaluations to their students. In addition, the TAs write a self-evaluation describing their perceived strengths and weaknesses and reflecting on ways to improve. The teacher-course evaluations and the self-evaluations serve as the basis for a discussion between the TAs and the coordinator of teacher training. If no major problems exist, formal training ends; however, if problems are evident, the two design a program to address them.

The program has proven successful and is currently beginning its fifth year. Through their participation in the program, graduate students receive the message that teaching is valued at Duke and that the department expects all TAs to work hard and do a good job.

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## Marquette University

Several years ago, the Department of Mathematics, Statistics, and Computer Science began a program to train its graduate students for teaching assignments. Currently, all supported graduate students, both TAs and research assistants (RAs), take a four-semester course entitled The Teaching and Learning of Mathematics. The course meets six times per semester for one and a half hours, and attendance is mandatory. Students have the option of receiving one credit per year for the course. A student taking two 3-credit courses can receive one credit for the course to fulfill the minimum full-time graduate load of seven credits. A brief outline of the course follows.

During the first semester, professors within the department known for their excellence in teaching discuss topics of practical interest. These include what to do the first class of a semester; preparing a syllabus; preparing lessons; using a blackboard and overhead; tests and quizzes; grading; learning names and maintaining personal contact with students; handling student complaints,

sexual harassment, and academic dishonesty; teaching styles; lecture skills; open-ended questioning; promoting student interaction; professional ethics and behavior; and university policies.

During the second semester of the course, students read, summarize, and discuss articles on current issues in mathematics education. The semester is devoted to challenging the strongly held belief that knowing mathematics is sufficient to be a successful teacher of mathematics, and to helping new teachers think about what they do in the classroom and why they do it. Topics include epistemology, constructivism and cognitive psychology, research on problem solving, gender-related issues, metacognition, ethnic and socioeconomic issues, and the use of technology.

The third semester emphasizes the importance of pedagogical content knowledge in addition to the student's knowledge of mathematics. Material from departmental courses typically taught by TAs is discussed with an eye to anticipating student trouble spots and formulating innovative approaches. Professors with many years of teaching experience in these courses discuss tips, tricks, and trouble spots related to specific content areas, as well as the psychology and backgrounds of the typical students who take those courses.

By observing other professors and by peer evaluation of their own teaching, TAs are encouraged to critically examine and improve their teaching during the fourth semester of the course. TAs observe the classes of four professors and comment on an observation form about content, use of the textbook, organization of the class period, professor-student interactions, use of media, and professional presence. Teaching assistants also are observed four times by other TAs or RAs, and observation forms are again completed. After each observation, the teacher and the observer discuss the forms.

The department currently is discussing plans for a teaching internship for its TAs. TAs would work one-on-one with professors known for their excellence in teaching. Professors would be paid a stipend. Instead of evaluating, professors would work cooperatively with the TAs, preparing lessons, discussing problems students have with the material, observing each other's teaching, and developing plans to improve teaching skills.

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## Syracuse University

The Department of Mathematics consist of thirty-four faculty, including one position in mathematics education, and some sixty graduate teaching assistants — eighteen beginning assistants, sixteen in their second year, ten in their third year, followed by six, four, four, and two in their fourth year and beyond.

Teaching assistants cover much of the department's lower-division teaching. An assistant

with no previous teaching experience usually is assigned to recitation sessions connected to an auditorium-sized section taught by a faculty member. In an assistant's second semester, a normal assignment would be an individually taught section of a lower-division course with a faculty member serving as course chair, preparing the syllabus, setting grading policy, writing the common final examination, and reviewing hour exams written by the assistants.

The present departmental training for new teaching assistants is built around the all-university Teaching Assistant Program. New teaching assistants report to the department several days before the all-university program begins to take a graduate placement examination and meet with academic advisors. When they check in, they receive the syllabus and textbook for their assigned course. On the first of the program's scheduled departmental orientation days, mathematics assistants attend several sessions that introduce them to departmental policies and their assistantship duties. Teaching assignments are confirmed, and meetings with faculty supervisors are scheduled for the following day. On the second of these departmental days, teaching assistants meet with the faculty course chair of the course to which they have been assigned.

Mathematics is a participating department in Syracuse University's new Future Professoriate Project, which allows Ph.D. candidates planning teaching careers to consider pedagogical issues in addition to developing their content expertise. In mathematics, the goal is to examine the instructional process, broadly and in depth, and to give these future teachers an opportunity to develop their teaching skills in a supportive environment. As part of this program, the department has established for graduate students the new higher-level teaching position of teaching associate.

A teaching assistant who has passed the qualifying examination and held an assistantship for at least two years is eligible for promotion to teaching associate. At an informational meeting, the program is explained and the teaching assistants with an interest in enhancing their teaching credentials are invited to apply for an associateship position. The promotion review process is scheduled for spring semester before renewal decisions are made, with promotion effective the following fall. In addition to the time-in-rank and the qualifying examination requirements, TAs also must show satisfactory progress in their particular Ph.D degree program, adequate English proficiency, successful performance in teaching several sections individually, recommendations from faculty supervisors from previous assignments, and an endorsement from the group of departmental faculty teaching mentors.

Instructional activities of teaching associates, including classroom performance, are supervised by a faculty teaching mentor, though the associates also will be working under the jurisdiction of the course chair of the particular course to which they are assigned. The mentors jointly devise a series of seminars or workshops for training teaching associates. Teaching associates already have received considerable guidance from course chairs on such matters as writing exams and quizzes and grading. The workshop series builds on this training and on the all-university TA Program. The seminar plans are flexible, so they can benefit from experience and ultimately become a program that all agree provides the training necessary for careers in university teaching.

The seminar series ranges from individual consultations between faculty teaching mentors and teaching associates working under their guidance to general seminars for all associates. The

latter address topics of broad interest in undergraduate instruction and are open to the entire department. The coordinator attempts to schedule a nationally recognized leader in some aspect of undergraduate mathematics education, in conjunction with the department's regular colloquium series. Other activities under consideration for the workshops include videotaping of teaching and peer discussions of the results, the use of technology in the classroom, and recent efforts by national groups to revise the calculus course. Discussions of readings from current literature on university teaching also are included.

Teaching associates have the option of pursuing a Certificate in University Teaching. Advantages of earning the certificate include improved teaching effectiveness and greater familiarity with the undergraduate curriculum and pedagogical matters, all of which improve the prospects for a successful college teaching career. To earn a certificate, teaching associates must take two courses: History of Mathematics, and Teaching of College Science; they are encouraged to take two others, The American College and University, and Philosophy of Mathematics. Associates pursuing the certificate are directed by a faculty teaching mentor, who works with one or two associates simultaneously. The mentor guides the development of a teaching portfolio, visits the associate's classes, and writes an assessment of the student's teaching strengths and style for inclusion in the portfolio. The mentor also might have teaching associates help train teaching assistants and, in particular, have them visit the classes or recitations of less-experienced assistants. Nominations for the Certificate in University Teaching are made by the faculty teaching mentor. All nominations are reviewed by the group of departmental faculty teaching mentors.

Faculty teaching mentors will contribute to the program through the following activities:

(1) Participating in the Faculty Teaching Mentors Seminar during each summer and the four follow-up seminars held the following year.

(2) Informing teaching assistants of the program and encouraging those who are qualified to apply for promotion to teaching associate.

(3) Participating in the promotion review process.

(4) Assisting in planning the series of teaching associate seminars/workshops.

(5) Mentoring individual teaching associates and supervising their teaching activities.

(6) Guiding teaching associates' development toward the Certificate in University Teaching.

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## University of North Carolina at Chapel Hill

The Department of Mathematics provides new teaching assistants with a year-long program to prepare them for their teaching responsibilities and to cultivate their pedagogical skills once these responsibilities have begun. The department's director of TA training and development coordinates

the program and serves as the liaison between the department and the university's Center for Teaching and Learning (CTL).

First-year graduate students attend the orientation phase of the program at the beginning of the fall semester. All new graduate students participate in the fall workshop conducted by the CTL. The campus-wide workshop begins by introducing the students to their role in the university's instructional mission.

Following the workshop, the department's training director and an experienced TA lead the new mathematics TAs through a department-specific discussion workshop devoted to topics such as undergraduate demographics, first day lesson preparation, and common student problems. These discussions also focus on the dual roles of TA and graduate student, as well as the expectations and pitfalls that accompany each role. The session's primary goal is for students to voice their preconceptions and/or anxieties about what will be expected of them as they carry out their teaching duties. The session leaders then delineate and clarify exactly what these expectations will be.

The formal training phase of the program begins once classes have started. New TAs do not teach during their first semester. Rather, they participate in a semester-long seminar devoted to a detailed examination of the department-specific teaching issues introduced during orientation. Discussion topics include lesson design, lecture and questioning styles, board technique, test writing and evaluation procedures, grading policies, responding to student concerns, student course reviews, and videotaped observations. Once again, encouraging and assisting students in exploring the philosophical and technical aspects of effective mathematics instruction is emphasized. The seminar is not limited to new graduate students. Rather, all instructors (both faculty and experienced TAs) are invited to attend and participate.

New TAs have some contact with undergraduates during their first semester while conducting the afternoon tutorial sessions that the department provides for its introductory courses. These sessions preview for the TAs the types of courses (i.e., freshman-level precalculus and calculus classes) that they will teach during subsequent semesters.

The final phase of the program occurs during spring semester, when the new TAs begin to teach their own sections. Classes meet for three lecture hours per week, and each TA has full responsibility for his/her section. Their first teaching assignment is always a course with a common syllabus and a faculty coordinator. Throughout the semester, the course coordinator helps ensure that each TA composes tests and quizzes that accurately reflect the topics emphasized on the common final exam. Before administering each test, new TAs are required to submit a copy to their coordinator. New TAs also continue to meet with the director of TA training to discuss problems and concerns as they arise during the semester.

Formal observation of the new TAs during their first semester of teaching occurs in the form of classroom visits and videotaping. Each new TA must have at least one class meeting videotaped. The director then conducts an individual post-conference with each TA, during which

they identify and discuss strong points as well as areas needing improvement. All TAs also are encouraged to take advantage of the resources provided by the CTL.

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## Programs of Note in Psychology

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Formal efforts to prepare psychology graduate students to teach date back to at least the mid-1960s (Benassi and Fernald 1991; Costin 1968; Grasha 1978; Rickard et al. 1991); in all of these cases, TA training was offered on a continuing basis. In 1984, the Committee on Graduate and Continuing Education of the American Psychological Association (Division 2) surveyed chairpersons of 447 master's-only and doctoral programs to assess the extent to which graduate students were being prepared for teaching-related duties (Lumsden et al. 1988). Seventy-four (74) percent of the doctoral programs responding assigned full course responsibilities to graduate students, compared with 19 percent of the master's-only programs. Forty-two (42) percent of the doctoral programs in which graduate students taught offered a seminar on college teaching, compared with 62 percent of the master's-only programs. Both of these percentages probably underestimate current offerings of seminars, because much has transpired in the area of TA training since the mid-1980s.

Departments use several training approaches to prepare graduate students for their roles as teachers. Some departments use an *apprenticeship model* (Lumsden et al. 1988), in which TAs might observe a faculty member in the classroom for a semester and prepare and deliver an occasional lecture. A variation is that TAs assist a faculty member by preparing and grading examinations, leading discussion sections, and so on. In both cases, TAs later are assigned a course to teach under faculty supervision.

In the *seminar model* (Lumsden et al. 1988), TAs complete a seminar on college teaching either prior to or concurrent with their first teaching experience. In the latter case, they also might be observed in the classroom and supervised by a faculty member. Seminars typically include information on textbook selection, syllabus preparation, instructional techniques, classroom dynamics, principles of human learning, and evaluation of teaching.

Some psychology departments employ *hybrid models.* At Iowa State University, graduate students first complete a one-semester seminar on teaching, after which they teach their own undergraduate course under faculty supervision. At the University of New Hampshire, students participate in a variety of activities that prepare them for their roles as classroom teachers during their third and fourth years of graduate study (Benassi and Fernald 1991). At the University of

California, Berkeley (see Lumsden et al. 1988), all new graduate students participate in a semester-long seminar; each student also is videotaped while lecturing to a class. Some of the more promising students complete an advanced seminar on college teaching and subsequently teach their own section of introductory psychology under faculty supervision.

What is on the horizon for TA training in graduate psychology programs? Because many Ph.D. candidates aspire to become professors, and psychology professors typically spend a portion of their time supervising undergraduate and/or graduate students' research activities, it seems appropriate that TAs receive training on how to perform the important *teaching* function. In their 1984 survey, Lumsden et al. (1988, p. 9) found that 80 percent of the respondents from Ph.D.-granting departments "reported that it was worthwhile to train students to become supervisors of the research of others." Although a number of the respondents indicated that TAs in their programs were involved in supervising the research of a less-senior graduate student or an undergraduate student, no program offered a formal course dealing with issues related to research supervision. Perhaps future surveys will document a shift toward such formal training.

—VB

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## Auburn University

The Department of Family and Child Development places a high premium on the development of teaching competencies in graduate students. Several sets of experiences exist through which graduate teaching assistants (GTAs) can develop teaching skills. One of these, a three-quarter-hour graduate-level course entitled Teaching in Higher Education and offered by the Graduate School to interested GTAs and university faculty, examines the process and substance of teaching in higher education. Teaching practices that promote learning independent of academic discipline are the main focus, but strategies for tailoring these practices to the teacher's discipline are also considered. An optional one-day workshop also is held by the vice president for academic affairs at the beginning of each academic year to help GTAs establish planning strategies for the development of course descriptions and syllabi, teaching objectives, and presentation styles.

All Family and Child Development doctoral students, as part of their program of study, also generate a plan to develop and document their teaching competencies. Students derive these plans in consultation with their advisory committee; each plan is individually tailored and similar

to an apprenticeship. At least two levels exist at which teaching skills can be developed and practiced: assisting a faculty member in a course, and assuming full responsibility for a course.

For new GTAs, the most likely assignment is assisting a faculty member with a class. Some of these classes are taught in large sections, and the role of the GTA includes attending lectures, helping develop and grade exams, holding office hours, and meeting with students. GTAs can lead discussion groups and can even develop and deliver guest lectures. In smaller section classes, GTAs most often are involved when the course is labor intensive. They may coordinate undergraduate laboratory exercises or assist faculty in writing-intensive courses. Both types of experiences familiarize students with the logistics of teaching. All of their activities are monitored by the faculty member in charge of the class, and GTAs receive faculty feedback on their performance at least quarterly.

For more advanced GTAs, opportunities exist to take full responsibility for teaching an undergraduate course while receiving feedback from both faculty observers and student evaluations. These GTAs have several sources they can rely on for support and ideas. Just prior to the quarter in which they will teach, an orientation, held within the School of Human Sciences by the assistant dean for academic affairs, provides information on pertinent university and school policies. As the quarter progresses, GTAs are observed by at least two faculty, each of whom attends class on at least two separate days. These faculty also examine the syllabus, tests, and other materials used by the GTA. They provide written and verbal feedback on the organization, methods, atmosphere, and personal qualities they observe in the classroom, as well as on the structure of the class as evident in the GTA's written materials. Summaries identify strengths and areas needing improvement. This is the same review process as that for departmental faculty.

The teaching apprenticeship is documented at each step by the student. At the end, each GTA has a set of materials as evidence of their competency and as a ready resource for future teaching experiences.

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## Florida State University

The Department of Psychology has two teaching tracks: one for TAs who teach three-credit undergraduate lecture classes, and one for TAs who teach one-credit undergraduate laboratory classes. TAs teaching lecture classes are required to have a master's degree and to have completed a three-credit teaching practicum course. The practicum course is taught every spring semester; for the past several years, it has been taught by a faculty member who has won several teaching awards. In the practicum, the graduate students receive reading assignments, discuss issues concerning college teaching, and develop skills in teaching, in part, by preparing and presenting short lectures to the practicum class, some of which are videotaped. Classmates and the instructor then provide verbal and written feedback (using a standard rating form) on the TA's teaching

style and presentation. Psychology faculty who have won teaching awards give guest lectures about the process and philosophy of teaching and associated issues. The students also interview faculty from other departments who have won teaching awards and share the faculty members' views of and approaches to teaching with the class. In addition, students in the practicum observe TAs who have been given primary instructional responsibility for a course and occasionally give a guest lecture.

During the summer following the completion of the practicum course, the students continue to meet with the instructor and observe other graduate students who teach. They prepare a syllabus for the course they are assigned to teach in the fall semester, as well as the first several lectures they plan to give. Once TAs begin to teach, they are observed and given written and verbal feedback one to two times per semester by either the teaching practicum instructor or the associate department chair. Each TA teaches one to two courses per semester.

TAs who teach laboratory classes are not required to have a master's degree or to take a practicum course. These students are typically assigned as apprentices to laboratory instructors during their first year in the department to help prepare them to teach a future lab (which may be in the spring or summer semester of their first year). Faculty supervisors are assigned to oversee each lab and supervise the TAs. Each TA teaches one to two labs per semester.

Within the department, periodic brown bag lunches are held for faculty and graduate students interested in discussing issues related to teaching. In addition, periodic workshops are sponsored on topics such as fostering critical thinking in the classroom.

The Program for Instructional Excellence is a university-wide program to provide resources and training for TAs. It offers a workshop series each semester and holds a two- to three-day orientation session for new and experienced TAs before the fall and spring semesters. The program also offers feedback and consultations on TAs' teaching techniques. The psychology department nominates TAs to the program's annual teaching excellence awards, presented at an awards ceremony; recipients receive a small cash award and a certificate. The program also sponsors teaching associate positions — such TAs are nominated by their departments and selected by the program to receive a supplementary stipend and to serve as the liaison between the program and their individual department. Associates also assist in developing department-based TA programs, including expanding available resource materials, consulting with TAs, and improving the training program based on a needs assessment.

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## Iowa State University

The teaching preparation program in the Department of Psychology prepares graduate students to teach at the college level. Because there are no undergraduate courses in the department for which graduate students teach laboratory or recitation sections, there is no special training for

teaching assistants who assist faculty members. Instead, the program prepares graduate students to teach a course independently. (Graduate students also can attend the university-wide TA-orientation program.)

The departmental program consists of two phases: The first is a two-credit seminar on the teaching of psychology, taught by a senior faculty member and generally taken by third-year graduate students. The seminar covers preparing and presenting material, leading discussions, giving demonstrations, maintaining interest and motivation, planning a course, assessing achievement, and grading. It also covers roles and responsibilities of instructors and other topics of interest. Each student must complete a number of assignments, for example, preparing a course syllabus, demonstration, or unit examination; making a five-minute explanation of a concept to the seminar; presenting a twenty-minute mini-lecture to introductory psychology students; and teaching a session of a regularly scheduled undergraduate course. In addition, each student is responsible for leading one session of the seminar, using both lecture and discussion methods.

The second phase of the program is a teaching practicum. Here the student has sole responsibility for an undergraduate course, under the supervision of a faculty member. The student must plan the course, prepare and present the material, and evaluate students' learning. The faculty supervisor approves the syllabus, exams, and grading procedures; periodically observes the student teaching; and meets with the student to discuss progress and problems. Generally, students teach a small (25 to 35 students) section of introductory psychology, but some students teach an introductory course in their specialty area.

The department has required all Ph.D. candidates to complete the program. In the future, only those students who wish to obtain teaching experience as part of their graduate program will be required to enroll; no student, however, will be allowed to teach in the department without completing the program.

No formal evaluation of the program has been conducted, but the department frequently hires as instructors students who have completed the sequence (e.g., to replace a faculty member on leave); and several students who have completed the program have received teaching excellence awards from the graduate college.

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## University of Alabama

In 1974, the Department of Psychology established a required three-hour graduate course, entitled Teaching of Psychology. To enroll in the course, graduate students must have either a master's degree or three semesters of coursework in the department. Each student takes responsibility for an introductory psychology section of about thirty-five undergraduates and participates weekly in a two-hour seminar taught by an instructor in the department who has demonstrated a high level of teaching competence. A variety of instructional materials have been used over the years;

seminar topics have included the role of psychology in a liberal arts education, testing and grades, evaluation of teaching, motivating students, and enhancing lectures and discussions.

The course provides various forms of feedback to the participants. The instructor visits two of each student's classes; a third is videotaped and critiqued jointly by the instructor and the graduate student teacher. The undergraduates in the introductory section provide feedback twice during the semester on a twenty-five-item course and instructor questionnaire.

Graduate students receive a letter grade based on how well they assume responsibility for the undergraduate section, on their mastery of assignments, and on their level of participation in classroom discussions in the graduate course. Data accumulated for ten consecutive semesters indicated a strong positive response to the course and its instructors from the undergraduates. In addition, the graduate student instructors gave the graduate course higher ratings on average than they did other graduate courses in the department. Doctoral graduates, when surveyed, also indicated that they held both the course and its instructors in high regard. Survey data from fifty-nine doctoral graduates, including many who trained primarily for clinical activities, revealed that teaching of various sorts occupies a substantial portion of their time. Almost all commented that the course increased their teaching ability, confidence, and knowledge of general psychology.

In a separate study, a group of graduate students who had completed the graduate course scored higher on a standardized test of general psychological knowledge than a comparable group who had not taken the course. Results of the survey and experiment suggest that systematic instructional training enhances communication skills while increasing mastery of the content of psychology.

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## University of New Hampshire

The Department of Psychology has offered a comprehensive TA-training program since 1965. Some seven to ten students enter the program each year. They each receive an assistantship and tuition waiver. Some students earn the Ph.D. in four years, but five years is typical. Because the emphasis is on preparing doctoral students to be both researchers *and* teachers, they complete a required program of study that provides instruction and practical experience in both areas. This abstract focuses on aspects of the curriculum that prepare students as college and university teachers.

Each first-year graduate student works with two faculty members, who assign teaching and/or research duties. As teaching duties, students might help professors grade papers, lead discussion groups, hold office hours for students, tutor, and prepare and deliver a lecture; this continues throughout their first two years of graduate training.

In May, each first-year student makes a formal research presentation to the psychology

faculty and graduate students. Students receive letters from their advisors about their overall performance to date, including their performance as TAs. Any problems that could possibly interfere with a student's success as a teacher are addressed at that time.

Toward the end of their second year, students begin to prepare for the introductory psychology course they will teach the following fall. They attend three 3-hour sessions that cover textbook selection, syllabus preparation, development of teaching units, test construction and grading, and elements of lecturing and discussion. Over the summer, students prepare an overview of their course, as well as several teaching units. A TA trainer critiques these materials.

During their third year, students teach a course in introductory psychology. Concurrently, they take a two-semester, six-credit seminar and practicum in the teaching of psychology. Different faculty members conduct TA training during the fall and spring semesters. (Three tenured faculty members currently serve as TA trainers.) A variety of topics are covered in the seminar: approaches to teaching, classroom dynamics, theories of instruction, thinking skills development, evaluation of teaching, history of college teaching, ethics, classroom research methods, and the use of media. The practicum assumes that the graduate student is teaching an introductory psychology course for the first time. Practicum students meet weekly as a group with the seminar/practicum teacher and also receive individual supervision on a regular basis. The seminar/practicum teacher observes each student in the classroom at least three times each semester, providing feedback and helping to improve the student's teaching skills.

During their fourth and fifth years, graduate students teach one course each semester. They typically teach courses in their specialty areas in addition to the introductory statistics course. During the fourth year and beyond, supervision is primarily the responsibility of one professor, but students also consult with other faculty. Since 1970, more than 70 percent of the program graduates have secured academic positions.

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# Programs of Note in the Social Sciences

edited by Phillip Saunders
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The National Survey of Teaching Assistant Training Programs and Practices and follow-up correspondence elicited responses from twenty-two programs. Twenty abstracts were received — nineteen from seven social science disciplines and one from an innovative interdisciplinary program combining English with history and political science — of which seven abstracts appear below. Those social science disciplines (and the number of abstracts received from each) are anthropology (one), economics (five), geography (one), history (six), industrial and labor relations (one), international service (one), and sociology (four). The relatively larger number of abstracts from economics and history might reflect the emphasis placed on the training of graduate student instructors by the leading professional association in these disciplines. In economics, for example, the American Economic Association's standing Committee on Economic Education, in conjunction with the Joint Council on Economic Education, obtained a grant from Lilly Endowment, Inc., in the late 1970s and early 1980s to conduct a series of workshops designed to institutionalize teacher-training programs for graduate students in Ph.D.-granting universities.[1] Three of the six abstracts submitted came from schools that participated in those workshops.

The abstracts make a clear distinction between department-based training programs for teaching assistants, who are assigned to a faculty member teaching a large lecture course with separate discussion sections, and teaching fellows (TFs) or associate instructors (AIs), who are given complete responsibility for teaching a course of their own or an independent section of a large, multisection course. As one would expect, the training programs for TFs and AIs tend to be more comprehensive and more formally structured than those for TAs. The abstract from the Department of Sociology at the University of Washington outlines three different programs offered by the same department. This is unusual. Most of the department-based training programs submitting abstracts did so for only one program that was adapted to the particular way they used graduate student instructors. The interdisciplinary training program from the University of North Texas also is unusual in that it links graduate students in English, history, and political science with the Classic Learning Core (CLC) of the university's undergraduate curriculum.

The abstracts submitted describe programs that range from informal meetings prior to the beginning of classes each semester to full-scale, three-credit graduate seminars. The University of North Texas program is the most comprehensive, following a three-credit seminar with four other types of training activities. Some of the programs have been in existence for more than two decades, others are very young. Some have a flexible and evolving format, others have a structure and content that varies little from year to year. Several use experienced graduate student instructors as well as regular faculty members to train and evaluate new graduate student instructors. Two schools include new faculty members in their training program. The most extensive report of faculty participation came from the Department of Sociology at the University of Tennessee,

Knoxville, which stated: "UTK's graduate seminar, Teaching Sociology, completed its sixth year with nine of our twelve graduate faculty participating, including two full professors who attended every session as team-teachers. Faculty members outnumbered the students by one."

Most department-based TA programs rely heavily on the mentoring efforts of senior faculty members and focus on a limited number of tasks, such as grading and discussion leading. The semester-long seminars and programs for TFs or AIs also address lecturing and the use of visual aids, exam preparation, textbook evaluation, and course structure and syllabus preparation. Fifteen of the twenty-two schools responding to the survey use videotape and critique of graduate student presentations. Seven of these schools require TAs, TFs, or AIs to be trained before they are assigned teaching duties; eleven offer training concurrently with the first teaching assignment; and three offer both preservice and inservice training. Four schools specifically require experience as a TA before graduate students are appointed as TFs or AIs.

The variety of programs reported indicates there is no single, "best way" to train graduate student instructors. To be effective, each program should be adapted to differences in institutional settings, resources, faculty interests, and departmental needs.

With the exception of the interdisciplinary program at the University of North Texas, the training programs responding to the NATIONAL SURVEY can be classified roughly as follows:

(1) *Informal Presemester Discussions With Subsequent Monitoring During the Semester.* No program described here is limited to this format only, but, as mentioned above, one part of the University of Washington's program in sociology uses the format for TA training. One of the two other schools reporting this type of program indicated that a series of faculty-run luncheon meetings at the beginning of each semester were well attended ("the food brings the Ph.D.'s in every time") and found helpful by the graduate students — particularly when supplemented with videotaping and observation sessions throughout the semester.

(2) *Structured Presemester Discussions Followed by Structured Meetings Throughout the Semester.* The economics abstract from the University of North Carolina at Chapel Hill, history abstract from the University of Southern California, and sociology abstract from the University of Washington describe the basic features of this type of program, which was also reported by five other schools — three in economics, one in history, and one in international service.

(3) *Regularly Scheduled Noncredit Seminars Throughout the Year.* The history abstract from Middle Tennessee State University describes the basic features of this type of program, which was also reported by five other schools — two in history, one in labor and industrial relations, and two in sociology.

(4) *Semester-Long Graduate Credit Seminars.* The abstracts from anthropology at the University of North Carolina at Chapel Hill, economics at Indiana University, and sociology at the University of Washington describe the basic features of this type of program, which also was reported by two other schools — one in geography and one in sociology.

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Note

1. For more information, see W. Lee Hansen et al., "Teaching Training Programs in College Economics: Their Development, Current Status, and Future Prospects," *Journal of Economics Education* 2(1980):1-9.

## ANTHROPOLOGY

# University of North Carolina at Chapel Hill

The university offers a course for post-M.A. graduate students to prepare them to assume sole responsibility for teaching an undergraduate course in general anthropology. This department-based course is in addition to a program offered by the university's Center for Teaching and Learning directed specifically at teaching assistants who assist professors in the teaching of a course.

The basic text for the graduate course is McKeachie's *Teaching Tips,* supplemented by lectures by staff members from both the Department of Anthropology and the Center for Teaching and Learning. Each student reviews two general anthropology textbooks (different books for each student) and collections of articles; uses a standardized questionnaire to interview at least four undergraduates who recently took the introductory course; and presents two short lectures that are criticized for form and content by the course instructor and class members (the first is videotaped and given to the student for self-evaluation). Each student also attends various lectures on teaching and learning theory; examination preparation and grading; audiovisual aids and their use and abuse; course evaluation methods and interpretations; and problems such as cheating, disadvantaged students, and discipline in the classroom. Each student prepares an introductory course syllabus to discuss and share with all other class members. Grades for the graduate course are assigned according to performance, fulfillment of specific requirements, and contributions through discussion.

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## ECONOMICS

# Indiana University at Bloomington

Since 1973, Indiana University has offered Teaching Undergraduate Economics, a three-credit graduate seminar designed to train second-semester graduate students in economics to become effective associate instructors (AIs) for one of numerous introductory undergraduate courses. In these large, multisection courses, associate instructors are given complete responsibility for teaching their own section. Working within the broad general outline for each course, AIs, like the regular

faculty who also teach these courses, are responsible for selecting texts, preparing assignment sheets, and constructing quizzes and examinations. The seminar prepares AIs for these demanding responsibilities through an integrated combination of in-class reading assignments and activities and out-of-class projects that involve all aspects of the teaching process, from planning instruction through evaluating student and instructor performance.

Many of the in-class reading assignments and activities are taken from *The Principles of Economics Course: A Handbook for Instructors,* edited by Saunders and Walstad (McGraw-Hill, 1990). The handbook contains chapters on learning theory and instructional objectives, lecturing, discussion leading, multiple-choice questions and tests, essay questions and tests, student writing as a guide to student thinking, microcomputer software, using videotape for teacher development and self-evaluation, student evaluations, peer evaluations, and research on teaching college economics. Readings from the *Handbook* are supplemented with class handouts on university procedures and regulations on topics such as cheating, automatic withdrawals, and incomplete grades; readings from the College of Arts and Sciences' Teaching Resources Center library; and a selected set of videotapes from various sources.

As an out-of-class project, each seminar student prepares and delivers a lecture to one of the introductory classes. The lecture, which must include the use of at least one overhead projector transparency, is videotaped and reviewed with a Teaching Resources Center staff member. Other projects and activities involve writing multiple-choice and essay questions and scoring keys, preparing and presenting written and oral book reviews of new introductory economics texts, preparing a course syllabus and a detailed assignment sheet, and role playing certain "critical moments" in college teaching.

The seminar meets twice a week during the spring semester. Course projects, papers, and activities are graded using the same standards that prevail in other graduate seminars. All students must successfully complete the seminar and those who do not speak English as their native language must pass a language competency examination to receive an AI appointment in economics, although satisfaction of these requirements does not guarantee an appointment.

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## University of North Carolina at Chapel Hill

Since 1978, the Department of Economics has conducted an annual Teacher Training Program (TTP) for graduate students and new faculty. The department requires that graduate students participate in the program before or concurrent with their first teaching assignment. The program is offered during the fall semester; normally, second-year graduate students participate. It consists of two parts: a five-session seminar series and a videotape critiquing program that follows the fifth seminar session.

The first seminar is called "Preparing to Teach at UNC." It includes an introduction to the TTP program; a guide to university and department regulations and procedures, including the honor code; a checklist for the TA's first recitations; an introduction to some principles of learning theory; and a list of recommended teaching practices. Faculty explain the importance of lecture organization, good use of the blackboard and other visual aids, and offer some tips on how to stimulate student participation.

The second seminar concerns the writing and grading of examinations and includes a discussion of the relative strengths of essay and objective examinations, guidelines to follow in preparing objective test items and grading essays, and an introduction to the use of test analysis software available at UNC. Participants must complete an assignment in which they prepare several multiple-choice questions and grade sample essays.

The third and fourth seminars are devoted to discussion and recitation leadership. The third covers the preparation of clusters of questions based on the Great Books discussion strategy. Faculty explain techniques by which a TA can encourage student participation and a questioning skill called "probing," and the TAs watch and discuss videotapes of sample recitation sections. In the fourth session, they practice what they have learned by conducting practice recitations lasting about twenty minutes. These are videotaped and critiqued by the TAs themselves under the guidance of the faculty. The session thus does double duty: It gives the TAs an opportunity to practice their interaction skills, and it introduces them to videotape feedback.

The second part of the TTP program is videotape critiquing. After an introduction to the videotape process in seminar five, each TA is videotaped while he or she conducts a full fifty-minute introductory economics recitation. The videotapes are reviewed by a senior graduate student employed by the TTP program, who then conducts critiquing sessions with two or three TAs at a time. The intent is to pool the critiques of TAs who were taped performing similar recitation assignments. During the critiquing session, the TAs receive positive reinforcement and constructive criticism and can compare strategy with their colleagues. Normally, all TAs are videotaped during the fall semester and, in some cases, once more in the spring. Because the taping is purely for teacher development, the tapes are considered confidential.

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## HISTORY

# Middle Tennessee State University

The history department offers a year-long training program for graduate teaching assistants (GTAs) to guide them in working with professors in the classroom and to help them develop the skills of classroom management, discussion leading, and student evaluation. The department's mentoring

program provides GTAs with the opportunity to work closely with a professor in the classroom. GTAs grade student papers and tests, develop quizzes and tests, lead discussions, and occasionally write and deliver lectures, all under the guidance and supervision of the mentoring professor. The program's goals are to increase the GTAs' general knowledge of history, introduce them to college-level instruction from the instructor's point of view, provide them with a positive classroom experience, and allow them to learn teaching techniques from experienced instructors.

GTAs work primarily with American survey classes and occasionally with Western civilization courses. Average class size is forty-five students. In addition, GTAs usually grade for another section of their mentor's course, where they might also give an occasional lecture.

Besides classroom work with their mentors, GTAs are expected to attend a series of three short workshops during the semester. Topics vary, but the workshops are designed to improve the GTAs' work in the classroom. For example, workshops might deal with such topics as test writing, use of audiovisual materials in the classroom, discussion leading, or grading procedures. These workshops are usually conducted by members of the history faculty.

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## University of Southern California

After a thorough evaluation of the Department of History in the early 1980s, covering all aspects of its graduate program, the faculty launched a department-specific training program for teaching assistants. Resources for the program included a good many years of experience in supervising TAs, various TA handbooks from other institutions, and a variety of readings, such as Steven Cahn's *Saints and Scamps: Ethics in Academia* (1986). Conducted by faculty who have won teaching awards, the weekly sessions (each about two hours) are held throughout the fall semester. They are open to all graduate students but are mandatory for new TAs; their special emphasis is the effective handling of discussion sections, a key responsibility for TAs. Preparation, initiative, and the establishment of a close working relationship between the TA and the individual faculty member are emphasized.

The program's lengthy orientation session during registration week stresses the "universal" — what constitutes good teaching and its importance to the department, the exciting but difficult and time-consuming nature of teaching, and the teaching assistants' role and responsibilities. Methods sessions follow, on techniques for opening the initial discussion sections; strategies and tactics for promoting critical thinking and sustaining interaction in subsequent discussion sections; and a broad-ranging, ethically based consideration of faculty-TA and TA-student relationships — and the nature of power relationships in general. A comprehensive session on grading is held about a week before the first exam. Again, advance preparation — exam goals and format and grading criteria, procedures, and techniques — is emphasized.

Since most TAs occasionally are called on to lecture, two sessions are devoted to writing

and delivering lectures. Sessions follow with the best and most experienced TAs (faculty are not present), who reflect frankly on how to manage time and handle faculty members and students — the most trying aspects of being a TA — useful classroom techniques, and the like. Time is always reserved at the end of each session for individual problems and concerns, and two complete sessions toward the end of the semester are devoted to such matters. A session on course and teaching evaluations — from TA, faculty, and student perspectives — concludes the first semester. Finally, during the first week of the second semester, a retrospective session on the first semester experience — a reflective self-evaluation of what worked and what didn't, what can and should be changed — is conducted in the context of beginning a new teaching assistant assignment.

Overall, the department has found ongoing, "in progress" training more effective than a series of sessions held in advance of classroom experience. Plans are under way to establish a mandatory professional and teaching skills program (including full class preparation) for all graduate students.

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## INTERDISCIPLINARY

# University of North Texas

The University of North Texas (UNT) is implementing a three-year program to train up to fifteen advanced doctoral students (primarily from English, history, and political science) each year to teach good undergraduate survey courses while they continue to pursue their graduate specialties. The training links Ph.D. candidates to UNT's successful undergraduate curriculum, the Classic Learning Core (CLC). The purpose of exposing graduate students to the CLC is fourfold:

(1) to prepare the next generation of college faculty to better teach undergraduate surveys, thus addressing directly the criticism that graduate students are not being adequately prepared for college classroom teaching;

(2) to bring to graduate education the same sort of multidisciplinary coherence demonstrated within the CLC;

(3) to provide highly qualified graduate students with an opportunity to teach, under faculty supervision, in a successful, innovative program, while simultaneously recruiting increasing numbers of freshman students into the CLC; and

(4) to train potential college teachers to think systematically about curriculum in the hope that they might later influence curriculum coherence at other schools.

The Classic Learning Core, it should be noted, is two things: a *process* of integrating the humanities and some of the social studies, and a *method* of approaching the UNT core curriculum.

The first can be seen as a way of shaping a wheel to fit any institution's axle or core curriculum; the second as a wheel for UNT's particular core curriculum. The former is exportable to any other college or university.

The graduate students' program has five major components:

(1) a three-hour seminar;

(2) attendance at the monthly CLC faculty seminars;

(3) attendance at the two-week CLC faculty workshop;

(4) supervised teaching experience in undergraduate CLC courses; and

(5) faculty mentoring with a CLC faculty member in each student's discipline.

At the heart of the program is the initial three-hour graduate seminar. The co-directors of the seminar will be assisted by guest lecturers from the regular CLC faculty, who will discuss their areas of specialization in the broader context that the CLC and the graduate seminar demand.

Examples of the texts and authors to be discussed in the seminar are *The Iliad, The Odyssey,* several Greek tragedies, *The Popol Vuh, The Republic, The Aeneid,* Aristotle, Shakespeare's "Hamlet" and "Julius Caesar," *The Federalist Papers,* Hobbes, Locke, de Tocqueville, Marx, Havel, and other comparable and important texts.

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## SOCIOLOGY

# University of Washington

The Department of Sociology offers three separate training programs for teaching assistants. The first training opportunity occurs during graduate student orientation. One module of the orientation focuses on preparing new TAs for their teaching assignments, including presentations on pedagogy, the role of the graduate TA, and an introduction to the services of the Center for Instructional Development and Research. Workshops on teaching styles, lecturing skills, and skills in leading discussions follow. The final component includes videotaping of short, prepared discussions by each of the new TAs; these videos are then evaluated by the group.

The second training opportunity occurs during the first or second quarter of the TAs' first year in the graduate program. TAs receive training in basic instructional methods as they conduct quiz sections for an introductory sociology course, Introduction to Deviant Behavior. This a large lecture course, structured around an integrated sequence of lectures and presentations in quiz sections. Teaching assistants must attend lectures and twice-weekly sessions with the instructor, make four presentations each week to small groups of undergraduates on writing and research not discussed in lecture, assist in constructing exams, and meet with students to discuss

the course and any problems they might have. The training addresses specific problems TAs encounter in classes and exposes them to a range of methods they can use to present material assigned for quiz sections each week. In the first TA-instructor session, students review the content of material to be presented and discuss approaches to leading the quiz sections. The second session is a "postmortem" of the week's quiz sections and an introduction to the next week's material. Peer observation and feedback on in-class performance is also a key component of the training.

A three-credit teaching seminar presents a third training opportunity. Co-taught by a faculty member and a senior graduate student, the seminar is required for a student to be eligible to teach her or his own course. The seminar acquaints students with the major professional and educational issues associated with college teaching and provides multiple opportunities to develop teaching skills. Students are required to design a sociology course, including developing a day-by-day outline of the course; selecting reading materials; and designing evaluation instruments. The second major component of the class employs weekly videotaped microteaching sessions, in which students practice giving several different components of a lecture. Students present their own tapes, which are subject to peer review. This leads to the preparation and delivery of a full lecture to an actual class, which is videotaped and evaluated by the class instructors. Finally, students prepare weekly short essays on key themes and ethical issues about teaching.

In addition to these formal training activities, a senior teaching associate (a graduate student who has demonstrated substantial skill and experience in teaching) is available to provide assistance to all TAs in the department.

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## Programs of Note in Speech Communication

edited by Ann Q. Staton

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Training of TAs within the discipline of speech communication, although recognized as a formal enterprise in most departments only during the last thirty years, can trace its origin in this country to the beginning of higher education. According to Friedrich (1987), instruction in rhetoric or speech has been essential since the foundations of Harvard University in 1636, with its emphasis on training ministers (who served a teaching function). He goes on to note that speech courses for teachers were offered at Indiana University in 1892; by the 1910-1920 decade, the appearance of such courses was rather general (p. 4). As TAs have taken on a more prominent role in the teaching of undergraduates, it is logical that an emphasis on TA training would emerge. Those interested in developing TA-training

programs should remember this history of the discipline and call upon theory and research in the field of communication education as they plan their programs.

As contributing editor of the section, I have been given the license to posit my own philosophy of TA training; my views, however, don't necessarily represent those of the authors of the abstracts that follow.

In contemplating the issues of TA training, there are three certainties I can put forward with confidence:

(1) TA training must prepare graduate students both for their particular teaching assignments in the department and for the professoriate they will enter when they complete their degrees;

(2) TA training must include preparation in both the content of the speech communication courses the TAs will teach and the process of teaching speech communication (pedagogical knowledge and pedagogical content knowledge); and

(3) there is no single, best way to train all TAs in speech communication.

Having articulated my underlying assumptions, I encourage readers who are developing TA-training programs to consider a wide range of alternative approaches. I offer an adaptation of one model for communication competence (Allen and Brown 1976) as a valuable guideline for program developers. The four dimensions of that model are:

(1) *Repertoire:* consider a wide repertoire of strategies and practices for preparing TAs;

(2) *Selection criteria:* select the appropriate strategies for TA training based on carefully considered criteria such as the background of the TAs, the institutional and departmental goals for TAs, the departmental context, the time and resources available (e.g., a faculty mentor system is only effective if departmental faculty are committed to the idea and will make themselves available to the TAs);

(3) *Implementation:* actually try out/implement various strategies and practices for training TAs; and

(4) *Evaluation:* evaluate the effectiveness of each strategy and practice implemented; gather evaluative feedback from multiple sources (e.g., the TAs themselves, their students, and faculty who work with them).

The abstracts that follow offer TA-training leaders several strategies and practices to consider, including offering a course/seminar on teaching; assigning each new TA to a mentor; having a faculty course director supervise each TA; holding weekly staff meetings with all TAs who teach a particular course; having faculty observe TAs teaching and give them evaluative feedback; holding ongoing colloquia and departmental presentations on various teaching issues; and having veteran TAs who want to teach a new course observe and work with a faculty member who teaches that course.

As they plan their programs, developers of TA-training programs need to ask themselves:

(1) How much preparation should TAs have before their appointment on campus begins?

(2) How much time should be devoted to orientation meetings/workshops before classes begin (five programs described hold orientations lasting from two and a half days to three weeks)?

(3) Is TA training considered an ongoing enterprise, or simply an event prior to classes?

(4) Who should be responsible for TA training (faculty, veteran TAs, or both)?

(5) What is the department's view of the TA role (e.g., novices to the discipline of speech communication and to the field of teaching, novitiates for the professoriate, teaching colleagues), and what are the TA-training implications of that role?

(6) Is TA training only for new TAs or also for veterans? What about veteran TAs who will be teaching a new course? How should the training differ for new and veteran TAs?

(7) What kind of departmental climate best fosters teaching excellence, and how can such a climate be developed?

As readers will see in the abstracts that follow, viewpoints among programs differ.

—AQS

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# Central Michigan University

The Department of Speech Communication and Dramatic Arts provides a three-week intensive training workshop for new teaching assistants (usually about twenty M.A.'s) each August. The workshop, run by the basic course director (who receives a half-time load reduction for that role) and one or two experienced TAs, is followed by a semester-long graduate course on teaching practices and philosophies that runs concurrently with the TAs' first semester of teaching. Staff meetings occur weekly throughout each semester, bringing together new and experienced TAs. At least three people are available to new TAs for consultation: the director and two basic course assistants (second-year TAs who have demonstrated special teaching ability and maturity). TA supervision is handled by the director.

The three-week workshop prepares new TAs specifically for their teaching assignment: sole instructor for two self-contained sections of the basic, introductory interpersonal and public communication course (about sixty-six students). To successfully complete the workshop, new TAs must demonstrate knowledge of the material and the skills needed to organize and present that information. Topics covered include writing objectives, creating lesson plans, asking good questions, evaluating student assignments, selecting appropriate teaching strategies, using and processing activities, leading discussions, finding and using supplementary materials, building climate and rapport, managing classroom communication, adapting to culturally diverse and/or academically diverse classrooms, handling conflict, and starting and ending the course (day one issues and closure issues). TAs are videotaped three times during the workshop: lecturing, running and processing an activity, and presenting a ten-minute speech. Assignments focus on the microteaching experiences and on analyses of those experiences. TAs also participate in a variety of peer observation and support activities that provide positive feedback and build their self-confidence.

The graduate teaching course delves deeper into the pragmatic and philosophical issues

associated with teaching and provides weekly discussions about teaching strategies to be used to teach specific content areas. Questions discussed during this fifteen-week course include the following: Whose fault is it when a student fails? Should we strive for competence (and thus allow rewrites), or should grades be used to differentiate ability levels? What assignments work best to teach listening?

Regular staff meetings deal with the mechanics of teaching. In this format, TAs describe problems with students, ask questions related to specific assignments, provide support for one another, and learn to problem solve. TAs are encouraged to provide feedback on any aspect of the basic course, and many meetings are devoted to modifying the syllabus for the following semester.

The director observes the TAs teaching at least twice each semester. Following an observation, the TA confers with the director and identifies goals for improvement, which form the basis for the next observation. Student input also is solicited, both in the form of "Dear TA" letters during the semester and in student opinion surveys at the end. Conferences with the course director help the TA to use that feedback.

Training is comprehensive and intensive because TAs have full responsibility for student evaluation. The director randomly selects and grades assignments and compares those grades with the grades given by the TAs. Where there are discrepancies, the TA and director work together to make sure that the grading criteria are applied appropriately.

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## Ohio University

The School of Interpersonal Communication offers two programs to help prepare its teaching associates. The first program is a structured seminar lasting two and a half days before classes begin in the fall; it prepares new and returning TAs to teach the public speaking course. The second program prepares more experienced TAs for teaching higher-level courses. TAs who wish to teach at a higher level attend that particular course as it is being taught by an experienced instructor.

The structured program covers three areas: orientation to Ohio University and graduate school, preparation for the classroom, and sharpening of teaching skills. The orientation sessions include an exercise on getting acquainted/team building, a seminar objectives session, a campus tour, a time and stress management program, and an explanation of the graduate student senate. The sessions on preparation for the classroom include dealing with student problems and complaints, academic misconduct, affirmative action, constructing examinations, grading, computer and learning services, and counseling and psychological services. The sessions on sharpening teaching skills include recognition and referral of academic problems, writing in a

public speaking classroom, nonverbal behavior in the classroom, lecturing, alternatives to lecturing, and taping and critique of a mini-lecture. In the spring of the year before these sessions, TAs receive a copy of the textbook, materials on effective college teaching, and two assignments. The first assignment requires preparation of examination items based on the textbook. The second assignment is preparation for the mini-lecture taping.

The second program for TAs parallels the way that faculty frequently prepare for new course assignments. Students who express an interest in teaching a new course simply attend the course taught by an experienced faculty member, meet with the faculty member as often as both think appropriate, and occasionally conduct the class, if the TA and faculty member agree. The resulting interaction provides both the TA and the faculty member with a clear indication of whether the TA will be able to prepare and conduct the course.

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## Pennsylvania State University

The Department of Speech Communication has provided training for its teaching assistants for more than three decades. During the past several years, new teaching assistants have participated in the following activities:

(1) a three-day presemester workshop to orient them to teaching autonomous sections of the basic required speech course;
(2) assignment to a mentor (a more experienced TA or faculty member) to observe the teaching of another section of the course and to provide new TAs with a resource person for their own teaching;
(3) enrollment in a required three-credit graduate seminar on speech pedagogy, during which new TAs develop complete lesson plans for their teaching;
(4) participation in programs about teaching sponsored by the university's Instructional Development Program; and
(5) participation in periodic formative and summative evaluations of instruction with the course coordinator and other staff.

The presemester workshop, for which new TAs receive modest compensation in addition to their assistantship support, begins with an informal get-acquainted ice-cream social the evening before the three full-day sessions begin. These sessions precede the more general departmental orientation for all faculty and graduate students. Workshop content includes presentations on the rewards and responsibilities of teaching, a review of the basic speech course's content and procedures, careful planning for the first several days of class instruction, and the design and presentation of a six- to eight-minute speech.

The assignment of a mentor enables the new TA to watch in action a more experienced

instructor who can also serve as an additional source of advice about course content, teaching methods, and other matters of classroom management.

The required graduate seminar in speech pedagogy continues the work of the presemester workshop by developing instructional content and procedures before they are needed for the section of the basic course being taught by the TAs. The seminar is taught by the basic course coordinator and also uses other faculty and experienced TAs in their areas of content and pedagogical expertise. This not only improves the content of the seminar but also serves to introduce other members of the department. The major assignment for the seminar is the development of a complete set of forty-five lesson plans for the basic speech course. Other assignments include practical problem solving papers, as well as a review of student and faculty feedback about the TAs' teaching.

Beyond the initial semester, additional periodic department and university-wide sessions on issues related to instruction are available. All TAs also regularly receive both formative and summative student and faculty evaluations of their teaching.

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## University of Maine

The Department of Speech Communication employs eleven graduate teaching assistants who serve as primary instructors for one of three basic courses: Interpersonal Communication, Public Communication, or Oral Communication of Literature. All TAs teach one section (twenty-five to thirty students) of one course in their first semester. During each remaining semester, they each teach two sections of one course. Graduate TAs are supervised by a faculty member who serves as basic course coordinator; the coordinator, in conjunction with the faculty and TAs, develops and implements syllabi and exams for all sections of the basic courses.

TA training is based on the assumption that incoming graduate students lack experience in teaching. Therefore, the department provides both a training program and a supportive climate in which TAs can develop as professionals and colleagues. The training program has three components: a three-day preterm orientation session; weekly meetings throughout the semester; and individualized observations, videotaping, and feedback sessions.

All graduate TAs attend the preterm orientation session. The session includes overviews of the department and of the graduate program, as well as a discussion of basic course policies. The coordinator reviews administrative responsibilities (such as meeting classes, record keeping, and university policies) and describes the process of teaching evaluation (through class observations, review of teaching materials, and student evaluations). Most of the three-day session, however, is devoted to teaching workshops. These workshops include demonstrations of lecture and discussion techniques by returning TAs, specific overviews of course material covered in the first two weeks of class, grading practices and policies, and discussion sessions on pedagogy and practical

concerns.

In addition to the preterm session, graduate TAs meet weekly to discuss teaching techniques, course assignments, options for exercises and methods of teaching course content, and construction of exams; to trouble shoot for problems; and to provide mutual support. During these meetings, faculty might be invited to guest lecture on topics drawn from course material or pedagogy.

The final component of TA training is individualized evaluation. The coordinator observes each TA during the semester. The TA and coordinator meet both before and after the class session to discuss class content, organization of the class, and student-instructor interaction. In addition, each TA distributes mid-semester and end-of-semester student feedback forms and discusses the feedback in individual meetings with the coordinator. The department also uses a teaching lab that includes videotaping in a classroom.

Beyond providing basic TA training, the department works to develop a supportive climate for teacher growth, in part by entrusting the TAs with the responsibility for individual classes rather than relegating them to running discussion groups and grading exams and papers for faculty. The TAs are teaching colleagues who share in faculty responsibilities and privileges. TAs and faculty present programs at regional conferences, co-author papers and presentations for campus seminars, and, perhaps most important, work together in developing the basic courses.

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## University of Washington

The TA-training program in the Department of Speech Communication has five components:

(1) background preparation by graduate students;

(2) a week of intensive orientation;

(3) a proseminar on teaching effectiveness;

(4) ongoing supervision and training by faculty course directors; and

(5) special colloquia.

The departmental focus for TA training is on preparing graduate students for the professoriate, including a dual emphasis on knowledge of content and the teaching process.

The first component, background preparation by TAs, is initiated by the department at the beginning of summer quarter, prior to the TAs' autumn quarter entry into the graduate program. TAs receive a course packet, including sample course syllabi, the textbook and other readings, and an instructor's manual. TAs are expected to read and learn the material during the three months before autumn quarter.

The second component, intensive orientation, occurs during the week before the beginning of autumn quarter. New TAs are oriented to teaching, the graduate program, and the department. The week is co-directed by a faculty member and a veteran TA and includes substantive sessions

on the content of the various courses the TAs will be teaching, as well as sessions on the instructional process itself (e.g., communication in the classroom, goals and objectives for particular courses, instructional strategies, and methods of evaluation and grading). TAs also become familiar with the array of instructional resources available within the department and in the larger university community. At the end of the week, all of the new TAs participate in microteaching sessions.

The third component is a one-credit graduate proseminar on teaching effectiveness offered during autumn quarter. The proseminar is co-directed by two faculty members, with guest presentations by other faculty. Sample topics include the TA role and expectations for teaching effectiveness, perspectives on the philosophy of teaching, the pragmatics of various instructional strategies, evaluating oral performance, and the politics of teaching. In addition to providing a forum for faculty presentations on teaching, the proseminar also allows TAs to discuss their specific teaching concerns and problems in a small-group setting. They receive feedback from other TAs as well as faculty.

The fourth component is ongoing supervision and instruction. The faculty director of each basic course meets regularly with the TAs to provide ongoing instruction on issues pertinent to the particular course (e.g., TAs teaching Oral Interpretation of Literature discuss methods of evaluating students' oral performances). The course directors also observe each TA teaching at least one time during the autumn quarter. The observations are followed by a one-on-one discussion between the TAs and the course director. If there are problems, or if the TA requests additional visits, the course director returns.

The final component consists of departmental colloquia held throughout the year, often on a particular theme. A recent theme was cultural diversity, with colloquia presented on topics such as the impact of student diversity on the classroom, strategies to maximize the benefits of classroom diversity, and adult learning styles.

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CHAPTER IV

# Preparing the Professoriate: Next Steps and What We Need to Do to Take Them

by Pat Hutchings
*Director, Teaching Initiative, American Association for Higher Education*

"The professoriate of the future will not be effectively trained for teaching unless those who honor teaching and learning acquire power within the universities" *(Heyne)*.

It's heartening to see in this volume the range and richness of current work with teaching assistants, at both the centralized and the departmental levels. But what do we do to sustain such work? To create even more effective programs? What impediments to good practice exist, and how might they be removed as we consider new ways to prepare the professoriate of the future for teaching? These questions were the focus of a "ten-minute essay," in which campuses responding to the National Survey of Teaching Assistant Training Programs and Practices shared their thoughts about what it will take to turn current practices into more powerful ones.

Eighty-four essays were received; the issues identified most frequently are described below. Beyond a listing of issues, however, the most striking aspect of the essays is a consensus that real and lasting improvement in the preparation of graduate students for their work as teachers depends on deep-seated change in the norms, values, and culture of higher education itself. The aim of this chapter is to set forward a range of views on the kind of change that will get us where we want to go, and to do so, wherever possible, in the words of the essay authors themselves.

## Problems of Values and Vision

Improvement begins with a clear view of what stands in its way, and authors of the ten-minute essays cite a number of impediments to better programs for teaching assistants: budgetary constraints, insufficient information about what works, inadequate expertise among those (especially faculty) whose job it is to oversee TA development. But the most frequently mentioned problems — and the ones that evoke the most passionate statements — have to do with values and commitments. In the institutions where teaching assistants are most numerous, many argue, teaching simply doesn't count. It's *research* that faculty and institutions really care about, *research* that brings money and reputation, *research* that's rewarded with promotion and tenure.

This formulation is hardly news, but the strong feeling it provokes is important to hear.

> The major impediment to change is that, in the institutions where the professoriate of the future is prepared for teaching, teaching is generally regarded as an activity suitable only for second-class minds. The first-class minds are supposed to do research, even if, as is increasingly the case, the research is mind-numbingly trivial and utterly devoid of redeeming social value. Almost all the incentives push in this direction *(Paul Heyne, senior lecturer in economics, University of Washington).*

And those who work with TAs are aware — painfully — that incentives pushing toward research are evident to graduate students even as they walk in the door:

> The brightest graduate students are channelled into research assistantships, while teaching assistantships can be given on the eve of the first day of class, or even in the first week of classes. . . . In the present circumstances, the brightest and best are bright enough and good enough to figure out that teaching is not considered to be where the real work is done *(John E. Lackstrom, professor of linguistics, Utah State University).*

"The bottom line," according to one biologist, "is that most graduate students (at least in the sciences) are preparing not for a career in higher *education* but for a career in research that may incidentally be situated in academe. Universities must clarify the message they give to graduate students about teaching if they want TAs (and faculty members) to regard teaching as a valuable activity" *(Jean L. Dickey, associate professor of biology, Clemson University).*

A number of respondents indicated that the hegemony of research holds not only on campus but also within the even less tractable worlds of disciplinary and professional associations. These groups, several writers argue, need to be involved in rethinking what matters; their work will allow departments on campuses to follow suit. Others argue it will take pressure from *outside* academe — from policymakers and taxpayers — to change the current scale of values. What's needed is fundamental restructuring such that "the teaching role of the professor and graduate student is seen as *delivering* resources to the institution, not expending them" *(Lackstrom).*

But the problem — the impediment — is not simply the hegemony of research. In noting the low status of teaching, approximately one third of respondents noted in one way or another a deeper problem that stems from a view of teaching itself: the "myth," as W. Lee Humphreys puts it, "that to know one's subject is to be able to teach it" *(director, Learning Research Center, and professor of religious studies, University of Tennessee, Knoxville).*

That view is both "backward" and "widespread," the essayists tell us. "Most graduate students believe that teaching requires nothing more than standing before the class and knowing the material to be taught," comments professor Ann Lumsden *(faculty member and academic program coordinator, Department of Biological Science, The Florida State University).* In math, for instance, the usual view is that "teaching is a routine matter which any mathematically trained person can do in a satisfactory way" *(Robert Wheeler, professor and director of graduate studies, Mathematical Sciences, Northern Illinois University).*

Such views might be particularly prevalent among graduate students, but as several essayists suggest, the attitude is one that graduate students learn from faculty. And it's fatal: So long as teaching is understood as an essentially simple, routine task, following inevitably from subject-matter expertise, all the "TA training" in the world isn't going to "take." Or, just as bad, "training" (a few tips for starting discussion, a lesson on the overhead projector) will be seen as quite sufficient.

Nothing could be further from the spirit of the ten-minute essays. What TAs need are "examples, coaching, mentoring, all with a visible university commitment from the top down" *(G.R. Horton, professor emeritus and former director, Graduate Student Professional Development Program, Bowling Green State University).* They need to see from the top down *and* from their own department's faculty that teaching is not a "no-brainer," menial task but a complex, intellectually challenging process one learns over the course of a career.

As one writer puts it, "The greatest challenge in preparing graduate students as professors is to develop a vision of teaching as scholarship among the current professoriate" *(Charles McClintock, associate dean, College of Human Ecology, Cornell University).*

## A More Complex View of Teaching . . . and Learning

In his 1990 Carnegie report *Scholarship Reconsidered,* Ernest Boyer argues for a conception of scholarship that encompasses not only research but a range of activities, *including teaching;* teaching, he contends, is (or can be) a scholarly activity. Though only a handful of the ten-minute essays allude to Boyer's report, its insights are widely evident in statements about the complexity of teaching, its grounded-ness in disciplinary expertise, and its difficulty as we come to understand more about the complexity of learning (i.e., our students' learning) itself.

Arguing against a view that teaching is a simple, straightforward task that one learns with a little training, Donald Wulff points to the multiple variables that must be considered in assisting TAs to lecture more effectively:

> We cannot focus on generic lecturing skills separate from the other dimensions that might simultaneously affect how the TAs lecture. Rather, we have to think about a specific TA or group of TAs lecturing to a specific group of students who, for example, learn best through demonstration. To carry the example one step further, we need to think about teaching a specific group of TAs to lecture to a group of students who learn best through demonstration in a department that traditionally has not provided TAs with the kinds of equipment necessary to conduct in-class demonstrations *(assistant director, Center for Instructional Development and Research, University of Washington).*

This view of teaching as a highly context-specific "situated" activity is echoed in a call by another writer to "enrich our concept of pedagogy":

> Professor Lee Shulman, of Stanford, has talked about the idea of pedagogical content knowledge, that is, knowledge of how a particular field or particular ideas in that field might best be taught. Too often we have attended to general teaching skills — how to be organized, how to motivate students — rather than to the pedagogical challenges of a specific discipline. We are more likely to attract faculty interest, however, and convince professors of the intellectual importance of pedagogy if we attend to the analogies, examples, and insights that are particularly robust in communicating the theory and practice of their disciplines *(Michele Marincovich, director, Center for Teaching and Learning, Stanford University).*

One punch line — not the only possible one — to the views from both Stanford and the University of Washington is that teaching assistants need to learn how to teach their particular subject, a piece of wisdom that runs through many of the essays. And it is worth noting here that although most of the authors express considerable enthusiasm and gratitude for centrally based TA programs, the need to build clear connections with departments, and to insist that

department faculty play a larger role, was a repeated point.

The argument for doing so is both theory-based (in a view of pedagogy) and political: "To be credible, TA training must be specific to the teaching assistants' disciplines, and it must come from their faculty mentors" *(Sara Stelzner, assistant director, University Writing Program, University of Massachusetts at Amherst).* Moreover, what TAs most urgently need to know varies by department:

> Faculty in departments can best judge what TAs need to learn in order to survive the first semester as instructors. At the most obvious level, almost all new TAs need to learn their way around the department, where the copy machine is, etc. Even such a common phenomenon as the discussion section varies from field to field. Leading a discussion in a government course, for example, in which different points of view can easily become polemical and identified with party politics or ideologies, requires different skills and sensitivities than leading a discussion in economics, in which students need to see the applications of theory to actual situations and need help in understanding the mathematics which underlies theory *(Lynne S. Abel, associate dean for undergraduate studies, College of Arts and Sciences, Cornell University).*

Well over half of the ten-minute essayists endorse such views; to be really effective, they say, the preparation of graduate students for their role as teacher requires leadership and commitment from faculty in the discipline.

What's interesting, however, is that the need for faculty involvement is a kind of Catch-22: The complexity of teaching, its value as intellectual (or scholarly) activity, will be communicated to graduate students when there's involvement by "regular" faculty in their department; but whether those faculty have thought deeply about teaching and learning and therefore about the kind of knowledge that will lead their graduate students to be better teachers is far from certain. While concurring with the view that there's something like a "pedagogy of content" that's best taught in the department, Marilla Svinicki nevertheless worries that "the 'knowing more about the content' that facilitates teaching may be a special type of knowing, one which is different from the knowing necessary for research" *(director, Center for Teaching Effectiveness, University of Texas at Austin).* One writer decries the common faculty attitude that "students will learn in spite of bad teaching and may even learn something from the experience" *(Jerry D. Feezel, professor and director, Teaching Assistant Program, Kent State University).* More commonly, faculty and departments behave as if student learning is mostly a matter of students receiving what faculty experts are delivering up. It is this attitude — more than the particular strategies of TA-development programs — that is most urgently in need of change in the view of many:

> I believe the challenge facing us now is to recognize that knowing one's field or subject is a necessary but not sufficient force for quality teaching in higher education. One must also understand students in all their diversity and complexity as they enter higher education today. This entails sustained consideration of human ways of knowing and learning, patterns of development, linkages between life experiences and learning that is to take place, consideration of the ways students know and make meaning related to the patterns of inquiry and basic methods that shape our disciplines *(Humphreys).*

## More Than Training

As we have come to understand that teaching and learning are complex processes, it has become clear that TA "training" is bound to fail. Indeed, "it may be wise," one faculty member in English points out, "to question some of the language we use when discussing the development of young

faculty. Words such as *training* suggest the taming of cattle or the toilet etiquette of toddlers, and should be rejected in favor of *development, support,* and *growth" (Chris M. Anson, associate professor of English, University of Minnesota).* What's needed, such arguments continue, is not simply an introductory teaching workshop or TA orientation but, rather, opportunities over time aimed at real professional development.

At a minimum, this implies what is suggested by a faculty member at the University of Michigan: What TAs need, he says, is not simply tips for getting started but "increasing levels of responsibilities. Not just paper shuffling and equipment handling but serious pedagogical thinking" *(Brian Coppola, professor, Department of Chemistry, University of Michigan).* What's needed is "a clearly defined progression of teaching responsibilities as graduate students" *(Van Beck Hall, associate professor and department chair, History, University of Pittsburgh).*

Such comments are suggestive, for they bring to mind how little sense of "development" actually characterizes current TA-development (or, for that matter, faculty-development) programs. There's virtually no sense of a curriculum; little sense beyond the intuitive ("I'll know it when I see it") of what distinguishes novice teachers from advanced and exemplary ones; few benchmarks for progress and improvement; a barely existent and often perfunctory peer review process; and no traditionally recognized teaching credential for higher education faculty.

All of that said, it should be noted that these are areas in which very interesting steps are now being taken. As is evident in the abstracts in this volume, some campuses are now implementing programs that continue long beyond an opening orientation; some departments are starting to offer (and require) for-credit graduate courses in the pedagogy of the field. At Syracuse University, the Future Professoriate Project (funded by FIPSE and The Pew Charitable Trusts) encourages more-experienced TAs to engage in an assessment process (including the development of teaching portfolios) that earns them a Certificate in University Teaching. The recently developed "Statement of Principles and Standards for the Postsecondary Teaching of Writing," developed by members of the Conference on College Composition and Communication (CCCC), will facilitate work with TAs in composition programs and might serve as a model for other disciplines.

Looking at such developments, it is hard to disagree with Barbara Hofer that what's wanted, ultimately, is to recognize TA training "as the first stage of *faculty development" (coordinator, ITA Training, Center for Research on Learning and Teaching, University of Michigan).* Not coincidentally, those involved in ITA programs have powerful suggestions about the development that's needed. "It has become clearer that the notion of training for effective language, pedagogy, and cultural awareness in the classroom may well extend to the faculty, particularly in universities that have seen an increase in international professors in recent years" *(Elizabeth Axelson, lecturer, English Language Institute, University of Michigan)* . . . or, one might add, those experiencing an increasingly diverse student body!

Finally, it should be noted that many respondents took the occasion of an essay on TA-development programs to argue that *all* faculty need to participate in continuing development as teachers. Some, in fact, would *begin* with faculty: "If we really intend to prepare the professoriate

of the future, we can start with those who are already members of that professoriate. We can retrofit the whole faculty" *(Dana C. Elder, director of English composition, Eastern Washington University).*

Wherever one starts, whatever strategies are employed along the way, evaluation needs to play a bigger role in current thinking about TA development. Interestingly, only a handful of essayists mention the need for evaluation, but those who do are clear about its importance:

> Too much of what is written about TA training is anecdotal or opinion-based. We need to investigate training strategies, evaluate training programs, isolate variables that contribute to (or detract from) our ability to successfully train TAs. Not only would such research contribute to our pragmatic body of information, it also will lend credibility to the process itself among those in academia who view research as the primary (only?) way of knowing *(Nancy Buerkel-Rothfuss, professor of interpersonal and public communication, Central Michigan University).*

## Toward a Community of Scholars

It is interesting that although many of the ten-minute essays include passionate pleas for improvement, a fair number also highlight the power — or potential power — of the TA experience as a sort of model for the larger campus culture.

One respondent, for example, recalled with real fondness her five years as a TA: ". . . teaching the core course, team teaching during two summers for the Dickens' Project's week-long Dickens Universe course . . ." *(Miriam L. Wallace, TA Trainer and Teaching Fellow, University of California, Santa Cruz).* Looking at TA programs featured in this volume, one imagines similar memories for their participants. At the University of Chicago, all TAs are part of a peer consultation team of three to four people who teach sections of the same course; in his review of programs in biology in Chapter III, section editor Clyde Herreid notes the power of "a united team effort" among graduate students who participate in weekly preparation sessions for a large introductory course. Many programs entail peer visitation and mentoring; a growing number publish newsletters to help TAs stay in touch with one another's teaching experiences. Such developments bring to mind a story told by Stanford's Lee Shulman in a keynote address to AAHE's 1991 Assessment Conference. Noting that teaching is essentially a private (and therefore nonscholarly) activity for most faculty on most campuses, Shulman recalls his days as a graduate student, when quite the contrary was true: "Research was something you did alone," he recalled; "it was *teaching* that was the public part of academic life."

It is, in fact, to this "public-ness" of the graduate student teaching experience that one writer points most hopefully: "TAs seem to be situated in a unique position to model . . . responsible pedagogical practice, since by their very nature they teach with another teacher, and not in complete isolation. TAs must be understood not as necessarily inexperienced or inadequate teachers but as part of a very particular and special teaching community" *(Wallace).*

No one would argue that this positive state of affairs holds true on all campuses. But it does suggest that, through attention to TA development, campuses can advance larger agendas: finding a route to greater shared commitment to, conversation about, and collegiality around teaching throughout the department and even across the campus. It is presumably with such benefits in mind that several respondents argue that *all* departmental faculty should participate

in work with TAs (or else, one person proposes, forgo promotion).

It is not only in attention to teaching, however, that work with TAs might be suggestive for faculty and departments more generally. In the abstracts in this volume, one finds a number of programs (mostly funded by FIPSE) with names such as Seminar on Faculty Life, Future Professoriate Project, Faculty Preparation Program — names that point beyond teaching to a larger sense of professional role and work. As one person puts it,

> The experiences associated with holding an assistantship should extend beyond just the acquisition of teaching competence in the classroom to include developing an understanding and appreciation of the composite portrait of the university professor at work in her or his discipline. . . . In addition to preparing skilled teachers for the classroom, our goal should be to foster the development of an understanding of the nature of higher education as a dynamic and evolving system and to encourage our graduate students to assume responsibility for shaping their careers *(Penelope Hanstein, program director for dance, Texas Woman's University).*

What's at issue, in the minds of a number of essay authors, is the nature of graduate education itself. "Ph.D. program directors must give more time and attention to helping degree candidates learn how to communicate to laypersons the most important contributions to knowledge in their field" *(R. Paul Churchill, professor and department chair of philosophy and co-director, University Teaching Center, The George Washington University).* Even more, "all graduate students, not just those anticipating an academic career, should be prepared to communicate in their field. In other words, the ability to teach effectively about one's field, whether the audience will be students, peers at a professional conference, or subordinates in the workplace, should be an expected outcome of graduate education" *(Marincovich).* What's at issue is what it means to become a biologist, an economist, a sociologist . . . and, therefore, the nature of faculty work itself.

## Next Steps

This is, in fact, the agenda that emerges from many of the ten-minute essays. It will, as a number of authors note, need support from various quarters: "umbrella" organizations such as the Council of Graduate Schools and the American Association for Higher Education; the professional and disciplinary associations, through which systems of status and reward are forged and reinforced; and funders who will step forward as FIPSE has to support important new work. As always, however, it will be the energy and commitment on individual campuses and among groups of peer institutions that matter most.

It seems appropriate, then, to end this account of the ten-minute essays with a "next-step" suggestion from one of them. Susan Pitchford *(senior teaching associate, Department of Sociology, University of Washington)* returns to the research vs. teaching debate with a bright new idea that speaks to many of her fellow essayists fears and hopes:

> An important step . . . is for graduate students to stake out a teaching territory in their career. By this I mean that we should develop "teaching agendas" in the same way that we develop research agendas. If we do not have teaching goals and plans for achieving them, then teaching becomes a kind of residual category in our careers, the chore that gets whatever energy is left after "our work" is done.

CHAPTER V

# Directories of Programs and Contact People

compiled by Stacey Lane Tice
*Assistant to the Director of the TA Program, Syracuse University*

This chapter comprises two directories of program contact people who responded to the NATIONAL SURVEY OF TEACHING ASSISTANT TRAINING PROGRAMS AND PRACTICES. Each directory lists contact name, job title, institution, address, telephone and fax numbers, and e-mail address.

The **Centralized Programs** directory is organized by institution. If a program is abstracted in Chapter II, the appropriate page number is given in brackets at the beginning of its directory entry.

The **Discipline-Based Programs** directory is organized by the disciplinary categories used in Chapter III, plus an "Other Disciplines/Departments" category that appears at the end. Within these disciplinary categories, directory entries are organized by institution. If a program is abstracted in Chapter III, the appropriate page number is given in brackets at the beginning of its directory entry.

# Directory of Centralized Programs and Contact People

**[pp]** denotes the page number of programs abstracted in Chapter II

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# Appendices

# APPENDIX A

## *Preparing the Professoriate of the Future for Teaching*

## Part I

*Co-Sponsored by:*
American Association for Higher Education
Council of Graduate Schools
TIAA-CREF

### A. General Information

1. Name of Institution _____

2. Does your institution, either centrally or in specific academic departments or units, provide teaching assistants with training related to their teaching duties?

| ☐ YES | ☐ NO |
|---|---|
| If **YES**, please complete section B (below) and Part II (following page). | If **NO**, *do not* complete section B (below), but please *do* complete Part II (following page). |

### B. TA Training Contact People

1. Please list the contact people at your institution whom you feel could best describe and provide information about **centralized** (all-university) TA training efforts at your institution. These may be based, for example, in the graduate school or a center for instructional development/faculty development/teaching excellence. Centralized efforts may also include training programs for international teaching assistants based in an 'English as a Second Language' program or other academic or service unit.

| a. | b. |
|---|---|
| Name | Name |
| Title | Title |
| Department | Department |
| Address | Address |
| | |
| Telephone ( ) | Telephone ( ) |

2. Please list the contact people at your institution whom you feel could best describe and provide information about exemplary, **discipline-specific** TA training based in departments or other academic units of your institution.

| a. | b. |
|---|---|
| Name | Name |
| Title | Title |
| Department | Department |
| Address | Address |
| | |
| Telephone ( ) | Telephone ( ) |

*Please list any additional contact people on the reverse side of this form.*

Name of individual completing Part I: _____

Thank you for your assistance! *(Space is provided on the other side of this questionnaire for comments.)*
Please return this form in the enclosed postage paid envelope to:

Dr. Leo M. Lambert and Ms. Stacey Lane Tice
Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
(315) 443-1856

**... Additional *Centralized* TA Training Program Contact People**

| | | | |
|---|---|---|---|
| c. | Name | d. | Name |
| | Title | | Title |
| | Department | | Department |
| | Address | | Address |
| | | | |
| | Telephone ( ) | | Telephone ( ) |

**... Additional *Discipline-Specific* TA Training Program Contact People**

| | | | |
|---|---|---|---|
| c. | Name | d. | Name |
| | Title | | Title |
| | Department | | Department |
| | Address | | Address |
| | | | |
| | Telephone ( ) | | Telephone ( ) |
| e. | Name | f. | Name |
| | Title | | Title |
| | Department | | Department |
| | Address | | Address |
| | | | |
| | Telephone ( ) | | Telephone ( ) |
| g. | Name | h. | Name |
| | Title | | Title |
| | Department | | Department |
| | Address | | Address |
| | | | |
| | Telephone ( ) | | Telephone ( ) |

**Comments**: _____

# Part II

*Co-Sponsored by:*
American Association for Higher Education
Council of Graduate Schools
TIAA-CREF

Please provide the following demographic data about your institution. If the data required to complete Part II (below) are not readily available, please complete and return Part I of this survey *immediately* and return Part II as quickly as the data can be made available.

## Demographic Data on Your Institution

1. Name of Institution _____

| | | |
|---|---|---|
| 2. What is the approximate **total** TA headcount at your university? | | |
| 3. What is the approximate **international** TA headcount at your university? | | |
| 4. Approximately what percentage of the TAs at your institution are matriculated as **master's** students? | | % |
| 5. Approximately what percentage of the TAs at your institution are matriculated as **doctoral** students? | | % |
| 6. Is TA training mandated on your campus? *(check)* | yes | no |

7. What is the source of the mandate?

- ☐ State legislative requirement
- ☐ University system-wide requirement (public university)
- ☐ State office requirement (e.g. state department of education)
- ☐ Institutional requirement (administrative or faculty mandate)

Other, please describe briefly _____

Name and title of individual completing Part II: _____

_____

Thank you for your assistance! *(Space is provided on the other side of this questionnaire for comments.)*
Please return this form in the enclosed postage paid envelope to:

Dr. Leo M. Lambert and Ms. Stacey Lane Tice
Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
(315) 443-1856

**Comments**: _____

# APPENDIX B

## *Preparing the Professoriate of the Future for Teaching*

### Centralized (or All-University) Program Survey Form

*Co-Sponsored by:*
American Association for Higher Education
Council of Graduate Schools
TIAA-CREF

Please use a separate survey form to describe each *centralized* or *all-university* TA training effort at your institution. If you have more than one *centralized* or *all-university* program on your campus (e.g. an international TA training program based in an English as a Second Language program, and a general TA orientation based in the Graduate School), please describe each program separately. (Duplicate this survey instrument if necessary.)

## **Part I:** Contact Information

| | |
|---|---|
| **A** | Name of University _____ |
| **B** | Title of Centralized or all-University Program _____ |
| **C** | Name and title of person completing this form: _____<br>_____ |
| **D** | Address _____<br>_____ Zip _____ |
| **E** | Office _____ |
| **F** | Telephone (_____) _____ |
| **G** | Fax Number (_____) _____ |
| **H** | E-mail _____ |
| **I** | Are TAs *required* to participate in all-university training activities?<br>☐ participation is mandatory.<br>☐ participation is recommended but not required.<br>☐ participation in ***some*** portions of our training efforts is mandatory.<br>Please briefly describe those portions that are mandatory: _____<br>_____<br>_____<br>_____<br>_____ |
| **J.** | In conjunction with participation in the program cited in "B" above, do TAs at your institution also receive training and guidance in the preparation for university/college teaching in their home academic departments? Please select the statement below that best describes your institution's situation.<br>☐ Most departments also have training programs in place and prepare graduate students for teaching as an integral part of the graduate experience.<br>☐ Some departments do exemplary work in preparing TAs for teaching, but others provide modest or no preparation.<br>☐ Most departments provide TAs with only modest or no preparation for teaching. |
| **K.** | For how many years has this program been in place?<br>☐ 1-2 ☐ 3-4 ☐ 5-10 ☐ 11-15 ☐ more than 15 |



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| | |
|---|---|
| **L.** | What is the approximate budget for the program?<br>Salaries _____<br>Operating (programming) _____<br>Equipment _____<br>Other _____ _____<br>Total _____ |
| **M.** | Is this program supported solely by institutional funds?<br>☐ yes ☐ no If no, what are the program's other funding sources?<br>_____<br>_____ |
| **N.** | What is the approximate stipend range for TAs at your institution?<br>_____ |
| **O.** | Has the effectiveness of your TA training efforts been formally evaluated?<br>☐ yes ☐ no If yes, please briefly describe.<br>(If copies of evaluations are available, please return them with your survey response.)<br>_____<br>_____<br>_____ |

## **Part II:** Abstract Describing Your TA Training Efforts

Please attach a 300-500 word (2 page, double spaced) abstract describing your program; you may consider *some* of the following subjects:

- The program's goals and desired benefits.
- The scope and range of activities offered for TA training (including duration and time of year offered).
- The number of TAs involved in the various aspects of your program.
- A description of academic unit or university-wide policies regarding TA load and assignment.
- The role of faculty and experienced TAs in your various TA training activities.
- Description of training or special preparation given to those who are leading TA training for your program.
- The relationship between the various providers of TA training at your institution.
- How your TA training efforts have evolved over time and how evaluation has informed change.
- Your hopes and expectations for future evolution of your TA training program and practices.
- The theoretical, philosophical, or organizational principles that have guided your program's development.

Sample abstracts are enclosed for illustration. **Please type your abstract on plain white paper (not letterhead), since abstracts will be optically scanned to facilitate data entry. Surveys returned without abstracts cannot be considered for inclusion in the forthcoming publication.**

In an effort to compile information on as many exemplary programs as possible, we would appreciate receiving a copy of manuals, brochures, evaluation reports, or any other supplemental information that you believe might help describe your program.

Please return your survey, abstract and ten minute essay (if applicable) in the enclosed postage paid envelope to:

Dr. Leo M. Lambert and Ms. Stacey Lane Tice
Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
Telephone: (315) 443-4492
Fax: (315) 443-3423

## **Part III:** "Ten Minute" Essay Response (optional)

The publication stemming from this survey will include a chapter summarizing "views from the field" for the following questions: "What new directions and initiatives should universities consider to help graduate students prepare for faculty careers in higher education? What are the major impediments for such change, and how might they be removed as we consider new ways to prepare the professoriate of the future for teaching?"

Please enclose your response (preferably typed on the enclosed response form or a facilmile) along with part I (survey responses) and part II (abstract). Names and institutions of essay writers will be noted unless otherwise indicated.

**"Ten Minute" Essay**

(over)

Name and title

Name of Institution

Please return your survey, abstract and ten minute essay (if applicable) in the enclosed postage paid envelope to:

Dr. Leo M. Lambert and Ms. Stacey Lane Tice
Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
Telephone: (315) 443-4492
Fax: (315) 443-3423

# APPENDIX C

## *Preparing the Professoriate of the Future for Teaching*

### Departmental (or Other Academic Unit) Program Survey Form

*Co-Sponsored by:*
American Association for Higher Education
Council of Graduate Schools
TIAA-CREF

Please use this survey form to describe the TA training program and practices in your department/academic unit. If related departments (e.g. accounting, marketing, and finance) sponsor collaborative TA training activities, a single survey form may be used to describe the program.

## **Part I:** Contact Information

| | |
|---|---|
| **A** | Name of University _____ |
| **B** | Name of Academic Unit(s)/Department/School/College _____ |
| **C** | Name and title of person completing this form: _____ |
| **D** | Address _____ Zip _____ |
| **E** | Telephone ( _____ ) _____ |
| **F** | Fax Number ( _____ ) _____ |
| **G** | E-mail _____ |
| **H** | Please indicate the number of TAs (headcount) in your academic unit(s) enrolled in each of the following degrees.<br>_____ Doctoral (including Ph.D., Ed.D., D.B.A., D.A.)<br>_____ Master's (including M.A., M.S., M.F.A., and other professional degrees)<br>_____ Other Graduate Degrees |
| **I** | Is your department solely responsible for training your TAs, or is that responsibility shared with an all-University office or department charged with providing TA training on an all-campus basis (e.g., located in the Graduate School, instructional development center, English as a Second Language program)?<br>☐ 1. TA training responsibility is based soley within the department (or shared with the departments in "B" above)<br>☐ 2. TA training at our institution includes both all-University activities as well as the training provided in the department.<br>Which office sponsors the all-University program?_____<br>☐ 3. Other (please briefly describe):_____ |
| **J.** | Are TAs *required* to participate in departmental training activities?<br>☐ Participation is mandatory.<br>☐ Participation is recommended but not required.<br>☐ Participation in ***some*** portions of our training efforts is mandatory.<br>Please briefly describe those portions that are mandated: _____ |



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| | |
|---|---|
| **K.** | For how many years has your department been engaged in TA training?<br>☐ 1-2 ☐ 3-4 ☐ 5-10 ☐ 11-15 ☐ more than 15 |
| **L.** | What is the approximate budget allocated for TA training *within your department/academic unit?*<br>_____ |
| **M.** | Our TA training activities are supported by:<br>☐ Departmental funds only<br>☐ Funds allocated by the dean or other central administrative office specifically for TA training<br>☐ External support (grants from foundations, government, etc.)<br>☐ Other (please specify)_____<br>_____<br>_____ |
| **N.** | What is the stipend range for TAs on full appointment in your department? _____ |
| **O.** | Has the effectiveness of your TA training efforts been formally evaluated?<br>☐ yes ☐ no If yes, please briefly describe. _____<br>_____<br>_____<br>_____<br>(If copies of evaluations are available, please return them with your survey response.) |

## **Part II:** Abstract Describing Your TA Training Efforts

Please attach a 300-500 word (2 page, double spaced) abstract describing your program; you may consider *some* of the following subjects:

- The program's goals and desired benefits.
- The scope and range of activities offered for TA training (including duration and time of year offered).
- The number of TAs involved in the various aspects of your program.
- A description of academic unit or university-wide policies regarding TA load and assignment.
- The role of faculty and experienced TAs in your various TA training activities.
- Description of training or special preparation given to those who are leading TA training for your program.
- The relationship between the various providers of TA training at your institution.
- How your TA training efforts have evolved over time and how evaluation has informed change.
- Your hopes and expectations for future evolution of your TA training program and practices.
- The theoretical, philosophical, or organizational principles that have guided your program's development.

Sample abstracts are enclosed for illustration. **Please type your abstract on plain white paper (not letterhead), since abstracts will be optically scanned to facilitate data entry. Surveys returned without abstracts cannot be considered for inclusion in the forthcoming publication.**

In an effort to compile information on as many exemplary programs as possible, we would appreciate receiving a copy of manuals, brochures, evaluation reports, or any other supplemental information that you believe might help describe your program.

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Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
Telephone: (315) 443-4492
Fax: (315) 443-3423

## **Part III:** "Ten Minute" Essay Response (optional)

The publication stemming from this survey will include a chapter summarizing "views from the field" for the following questions: "What new directions and initiatives should universities consider to help graduate students prepare for faculty careers in higher education? What are the major impediments for such change, and how might they be removed as we consider new ways to prepare the professoriate of the future for teaching?"

Please enclose your response (preferably typed on the enclosed response form or a facilmile) along with part I (survey responses) and part II (abstract). Names and institutions of essay writers will be noted unless otherwise indicated.

| **"Ten Minute" Essay** |
| --- |
| (over) |
| Name and title _____ Name of Institution _____ |

Please return your survey, abstract and ten minute essay (if applicable) in the enclosed postage paid envelope to:

Dr. Leo M. Lambert and Ms. Stacey Lane Tice
Syracuse University
303 Bowne Hall
Syracuse, New York 13244-1200
Telephone: (315) 443-4492
Fax: (315) 443-3423

APPENDIX D

# About AAHE

The American Association for Higher Education (AAHE) is a national organization of individuals dedicated to improving the quality of higher education. AAHE members share two convictions: that higher education should play a more central role in national life, and that each of our institutions can be more effective.

AAHE helps to translate these convictions into action. Through its programmatic activities, its conferences, and its publications, AAHE helps its members acquire the "big picture" and the practical tools they need to increase their effectiveness in their own setting and to improve the enterprise as a whole.

Member support enables AAHE to initiate projects — such as the AAHE Teaching Initiative — on a range of issues to create effective change at the campus, state, and national levels. Members receive discounts to the conferences and publications these projects generate and they can access the project's consulting, networking, and information resources.

Other benefits of AAHE membership include subscriptions to *Change* magazine and the *AAHE Bulletin*; discounts on conference registrations; discounts on selected non-AAHE periodicals *(The Journal of Higher Education* and *ASHE-ERIC Higher Education Reports)*; and more.

For more information about AAHE membership and activities, contact AAHE at One Dupont Circle, Suite 360, Washington, DC 20036-1110; phone 202/293-6440, fax 202/293-0073.

## The AAHE Teaching Initiative

In April 1990, AAHE announced that a generous gift from Allen Jossey-Bass enabled it to launch a new program within AAHE called The Teaching Initiative. The Teaching Initiative is best understood not as an attempt to promote any particular teaching strategy or method but as work on a number of fronts to help promote a campus culture in which questions about teaching and learning are topics of ongoing, public faculty discourse.

The AAHE Teaching Initiative currently consists of these activities:

### Cases About College Teaching and Learning

The first major project of the AAHE Teaching Initiative was a three-year effort begun in 1990 to develop cases about college teaching and learning. These cases, focused on introductory courses in a variety of disciplines, are intended to prompt more context-specific (and therefore, we think, more authentic) conversations among faculty about how to work successfully with students.

### Turning TAs Into Teachers

In 1991, for the third time, AAHE cosponsored with several other associations the *National Conference on the Training and Employment of Teaching Assistants.* The conferences are held on a biennial basis; the next is scheduled for 1993.

### The Forum on Exemplary Teaching

More than a hundred faculty, identified on their campuses as exemplary teachers and as "teachers of teachers," meet during AAHE's National Conference on Higher Education for a special program. The Forum on Exemplary Teaching — an annual program that began in 1989 — aims to develop and promote richer ways to represent and inquire into teaching and learning. Faculty delegates to the Forum serve as liaisons between their campus and the AAHE Teaching Initiative.

### Teaching Portfolios

If cases can help us understand teaching, the teaching portfolio can help document the ways we put that understanding into practice. A growing number of campuses are turning to this promising new vehicle for the evaluation and improvement of teaching. AAHE has been studying uses of the teaching portfolio for several years, and a monograph is now available. The Teaching Initiative also is establishing a "user network" and preparing a directory of selected campus use, scheduled to appear in spring 1993.

### Other AAHE Teaching Initiative Publications

**The Teaching Portfolio: Capturing the Scholarship in Teaching** (1991, 72 pp)
By Russell Edgerton, Pat Hutchings, and Kathleen Quinlan.
AAHE members: $10.95 ea, nonmembers $12.95 ea, for 1-7 copies.
Bulk orders: 8-19 copies, $8.95 ea; 20+ copies, $7.50 ea.

**The Case for Cases in Teacher Education** (1991, 36 pp)
By Katherine K. Merseth. Co-published by AAHE and the American Association of Colleges for Teacher Education. *Note:* Send check payable to "AACTE Publications" directly to AACTE, One Dupont Circle, Suite 610, Washington, DC 20036-2412.
AAHE and AACTE members: $12.00 ea, nonmembers $14.00 ea.

***Coming Soon . . .***

Monograph About Cases, by Pat Hutchings

Directory to Campus Portfolio Practices, edited by Erin Anderson

Orders under $50 must be accompanied by check or charge payment; orders over $50 must be accompanied by payment or institutional purchase order. Order from AAHE Publications, One Dupont Circle, Suite 360, Washington, DC 20036-1110; ph. 202/293-6440, fax 202/293-0073. Make check payable to "AAHE Publications."

## The Editors

[illegible] M. LAMBERT is associate dean of the Graduate School and director of the FA Program at Syracuse University, where he also teaches in the graduate program in higher education. With support from The Pew Charitable Trusts and FIPSE, he also is currently directing the Future Professoriate Project at Syracuse, a set of new initiatives to comprehensively prepare graduate students for college and university teaching careers. Dr. Lambert has co-authored two other publications for AAHE, the most recent of which is *Linking America's Schools and Colleges: A Guide to Partnership & National Directory*.

SUSAN KANE HOLT is assistant to the director of the FA Program at Syracuse University, where she also teaches in the Department of Higher Education. She is a doctoral candidate in teaching and curriculum and currently is working on her dissertation, entitled "Preparing the Professoriate of the Future for Teaching: An Analysis of FA Programs and Practices in the United States."

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